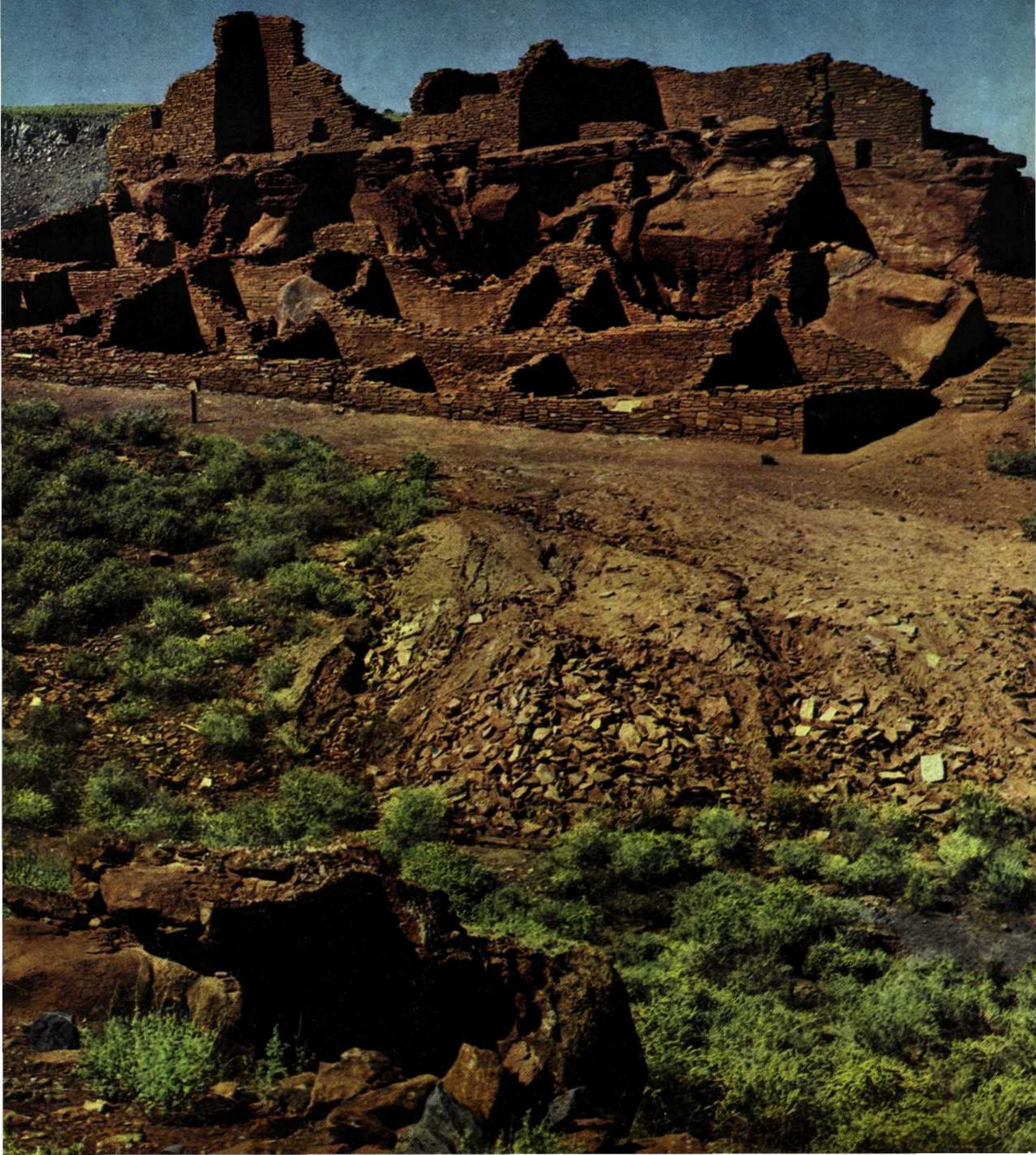


Desert

NOVEMBER, 1957 . . . 35 Cents





HISTORIC PANORAMAS IX

Ballarat, California

By JOSEF and JOYCE MUENCH

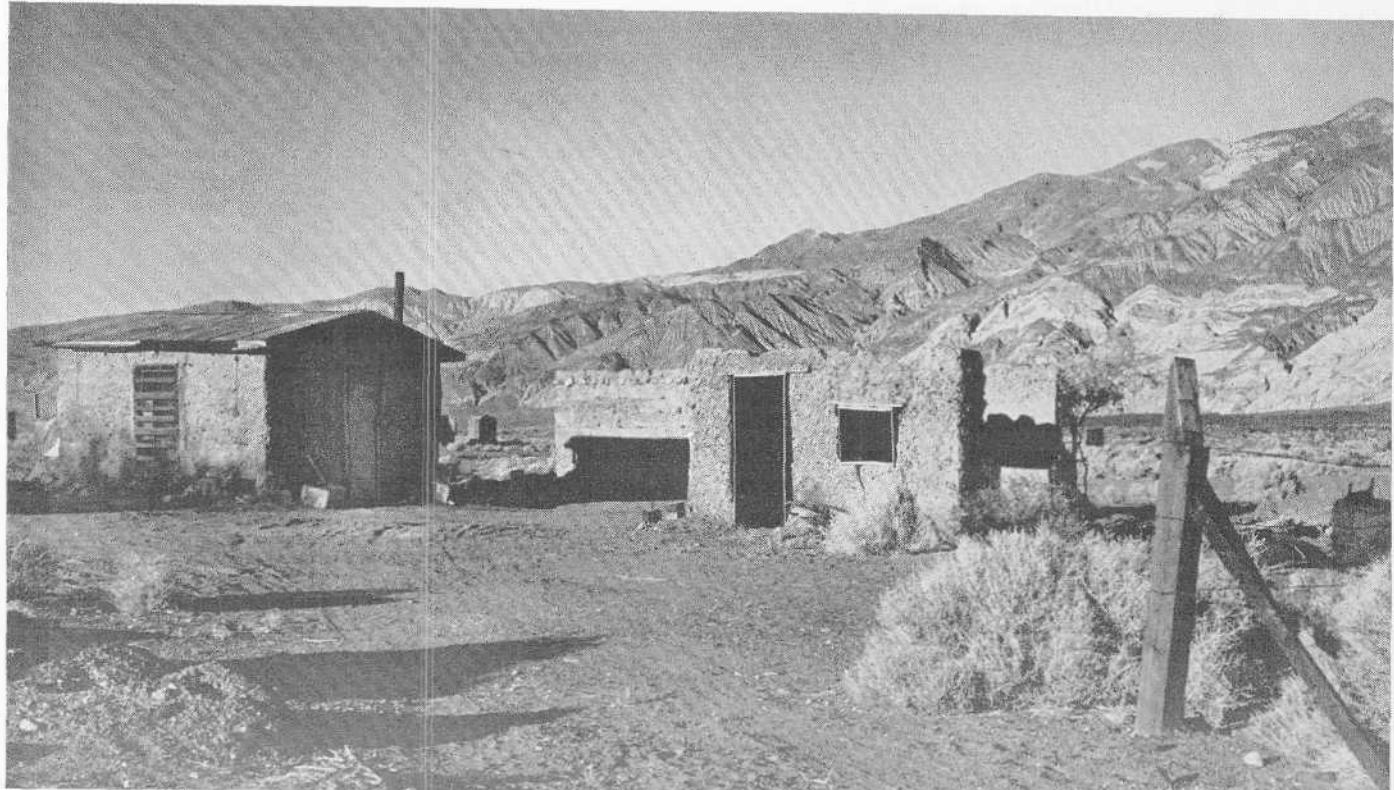
Only a few buildings still stand to mark the site of Ballarat in California's Panamint Valley. The old camp, founded in the late 1890s, was for 20 years a supply and entertainment center for miners and prospectors busy at

their trade in the canyons of the beautifully eroded mountains in this country.

Even today, a dozen or so prospectors make headquarters at Ballarat each winter.

Ballarat's remaining structures, constructed of adobe, have had a kinder fate than befalls concrete, tin or wood buildings. They seem to merge with the earth from which they rose, taking Nature's softer lines as they retreat from useful shelters to mere memories. Upwards to 500 people lived in Ballarat during its heyday.

High above the ghost town towers Telescope Peak, offering spectacular views of both the Panamint Valley to the west and Death Valley to the east.



DESERT CALENDAR

Nov. 1—Heard Museum opens for season, Phoenix.

Nov. 2—All Souls' Day, Memorial Services in all Spanish Villages in New Mexico.

Nov. 2-3—Sierra Club's Desert Peaks Section hike to Avawatz and Funeral peaks east of Death Valley, California. Camp at Sheep Creek Springs Friday night, Nov. 1. For information call Walt Heninger, CL 5-8622, in Los Angeles.

Nov. 2-3—10th Annual Sports Car Road Races, Palm Springs, Calif.

Nov. 2-11—Arizona State Fair, Phoenix.

Nov. 3—Annual Horse Show, Tucson.

Nov. 3-Dec. 8—International Exposition and Fair, "Sonora En Marcha," Hermosillo, Mexico.

Nov. 7-9—International Mining Convention, El Paso, Texas.

Nov. 8-10—Western Week, Palm Springs, California.

Nov. 8-11—9th Annual Death Valley Encampment. See page 28.

Nov. 9-10—15th Annual Desert Weed Show, Twentynine Palms, Calif.

Nov. 9-10—Desert Arabian Horse Show, Palm Springs, California.

Nov. 9-11—Sierra Club Bus Tour of Lake Mead Recreation Area, from Los Angeles. For information call Bill Dorris, CH 5-4748.

Nov. 10—Western Saddle Club Gymkhana, Phoenix.

Nov. 11—Veterans' Day Celebration, Sparks, Nevada.

Nov. 12—Annual Fiesta and Harvest Corn Dance, Jemez Pueblo, New Mexico.

Nov. 12—St. James Day Fiesta and Harvest Corn Dance, Tesuque Pueblo, New Mexico.

Nov. 15-16—Northeastern New Mexico Hereford Breeders Association Cattle Show and Sale, Raton.

Nov. 15-17—First Annual Cattle Call, Brawley, California.

Nov. 15-20—Golden Spike National Livestock Show, Ogden, Utah.

Nov. 16—Washington Garden Club's Chrysanthemum Flower Show, Phoenix.

Nov. 16-17—Elks' Rodeo, Victorville, California.

Nov. 16-17—Catholic Fiesta, Yuma, Arizona.

Nov. 17—Founders Day Picnic, Palm Springs, California.

Nov. 19—Fifth Annual Spook Night, Jerome, Arizona.

Nov. 23-24—Arizona Horse Lovers Club's Horse Show, Phoenix.

Nov. 24—Junior Horse Show, El Centro, California.

Nov. 28—Desert Sun Ranchers' Rodeo, Wickenburg, Arizona.

Nov. 28-Dec. 1—Sierra Club campout in Kelso Valley, California. Leader: Loretta Miess, Los Angeles, NO 5-9060.

Nov. 29—Annual Treasure Hunt, Hobbs, New Mexico.

Nov. 30-Dec. 1—Junior Parade and Rodeo, Florence, Arizona.

Late November or early December—Shalako Dances, Zuni Pueblo, New Mexico.

After first frost—Navajo Yeibichi and Fire Dances, Navajo Reservation.



Volume 20

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Number 11

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RANDALL HENDERSON, Editor

EUGENE L. CONROTTA, Associate Editor

BESS STACY, Business Manager

EVONNE RIDDELL, Circulation Manager

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Address Correspondence to Desert Magazine, Palm Desert, California

Outdoor Advertising and Public Relations

AN EDITORIAL

Reprinted from *Nature Magazine* for August-September,

1957, Richard W. Westwood, Editor

NON SEPTEMBER, 1956, The Union Oil Company of California, which serves the States of Arizona, California, Idaho, Montana, Nevada, New Mexico, Oregon, Utah and Washington, cancelled all use of billboard advertising. The result of this action has been a twenty percent increase in patronage and a widespread expression of public approval.

"Two factors were of primary concern to the company in reaching the decision to abandon this type of advertising," says the company's official announcement. "First was the traffic hazard which a great many experts have indicated billboards tend to increase. Second is an apparent and growing resentment on the part of many people and residential communities to obscuring our natural beauties with this type of advertising."

"As a company serving the motoring needs of a general public, it did not make good sense for us to continue to use an advertising method which was apparently becoming offensive to many of our customers and prospects and which, in the opinion of some experts, represented a hazard to them."

In the light of this action, and the nationwide publicity that has resulted from Senate hearings on Federal legislation to restrict outdoor advertising along the 41,000 miles of the \$33 billion Interstate Highway System to be built during the next decade, those interested in protecting the highways from outdoor advertising invasion have sounded out the attitude of the largest users of outdoor advertising space. It has been called to the attention of those advertisers that seventy-five percent of the new highways will go through new and as yet unspoiled territory, and that the limited-access design of the highways excludes all other business use of the roadsides.

In view of this it has been suggested that these advertisers might well review their advertising in the light of good public relations, and in recognition of the distaste of the large majority of Americans for such roadside defacement. This sentiment is demonstrated in the findings of a recent Trendex poll, which showed that two out of three Americans are definitely opposed to rural outdoor advertising. Business executives have been urged to express their thinking in this matter.

While outdoor advertising users reveal no general tendency to jump on the Union Oil Company's bandwagon, they do indicate appreciable recognition of the sentiment against misplaced outdoor advertising. A good many executives insist that their billboard messages are confined to commercial and industrial areas, thus revealing a concern for the rural highway environment. Many of them extol the outdoor advertising medium as beneficial to the "health of the American economy," which, it seems, is supposed to cover a multitude of sins. Others parrot the outdoor advertising

industry's line that "regulations should be on a State and local level," an argument always advanced because the industry knows from long experience that it is easiest to thwart regulations at these levels. A few even indulge in encomium for the "beauty" of the billboard.

The president of Outdoor Advertising, Inc., the trade organization of the standardized outdoor advertising medium, reacted to any opposition to outdoor advertising by providing two most interesting sentences:

"I wonder if you will agree that freedom to communicate is basic to our society, and that freedom of speech—freedom to be heard—also implies freedom to be seen. The right to communicate visually in the outdoor area—in good taste and within the law—would seem to be one of our essential freedoms."

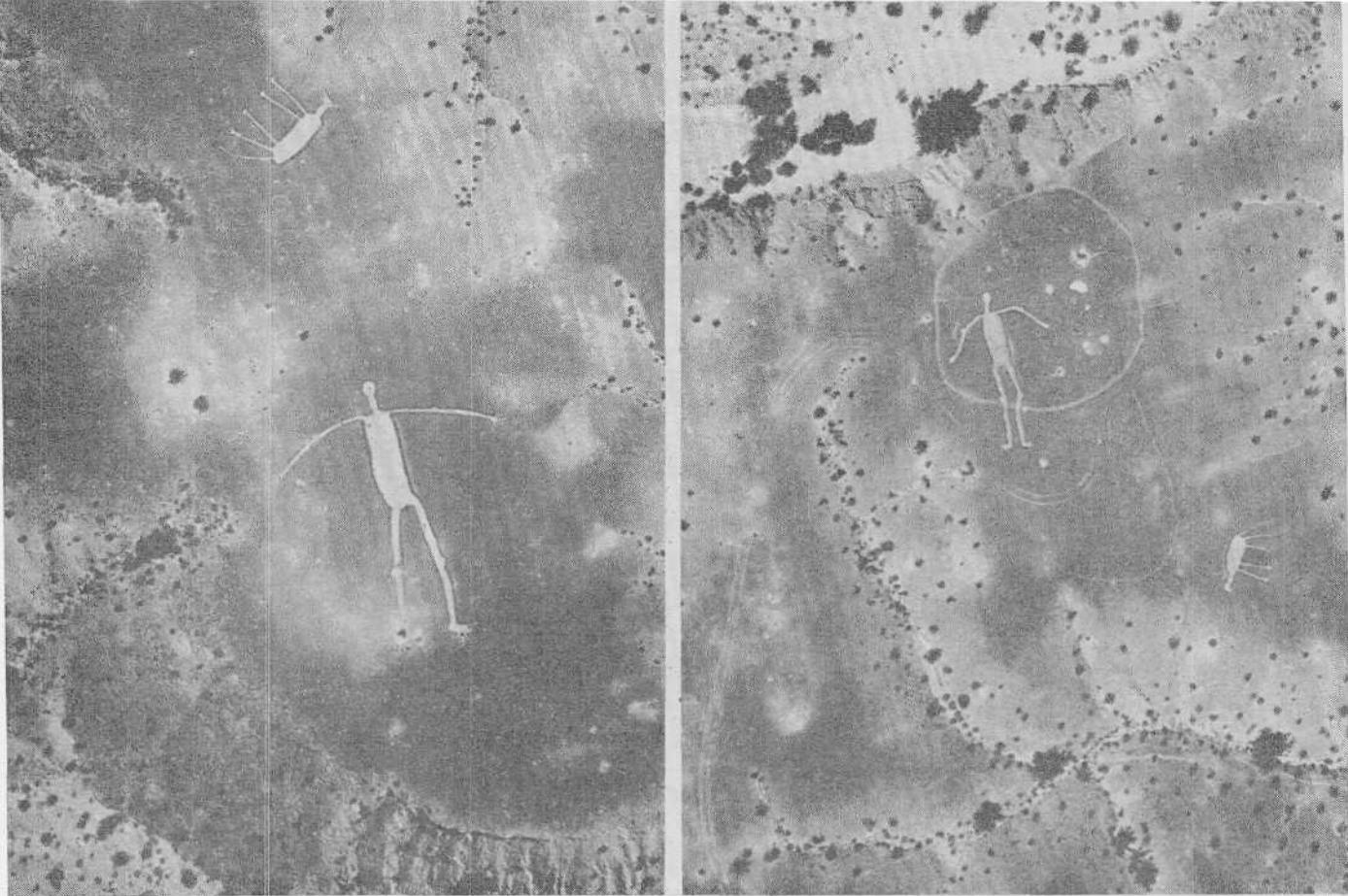
This syllogism attempts to postulate a new freedom—the freedom to intrude. It also arrogates to "good taste" a universal definiteness that O.A. does not, unfortunately, possess. And it is easy to remain within the law when you control that law!

The outdoor advertising medium, the industry contends, is subject to regulations in all of the States. In fact, such regulations vary from the infinitesimal to the too little at the State level, and from nothing at all to occasional good zoning at the local level. The outdoor advertising industry asserts that it, as a legitimate business, is entitled to participate along with other businesses in areas which have been zoned for business, commercial, or industrial purposes.

So far as the system of interstate highways is concerned, these are limited access highways, with all business excluded except from the vicinity of points of ingress and egress and roads feeding such interchanges. Thus the outdoor advertiser is seeking a unique privilege; is asking for an exclusive place on the environs of the new highways. It is not a question of the control of outdoor advertising but the control of the use of the highway, which includes its immediate environment. Are the outdoor advertising people, then, entitled to special consideration?

The answer to that is simple. When the "Outdoor Advertising Medium" actually and specifically confines its operations to areas which have been zoned for business, commercial or industrial purposes there will be some realistic basis for resolving the conflict between the industry and those concerned with roadside protection.

Such sounding of sentiment among advertisers and the outdoor advertising industry serves to strengthen our conviction that the only protection to the public, which is investing its billions in the new highway system, lies in Federal control of the parasitic growth of outdoor advertising along these highways.



Giant Figures on the desert near Blythe as photographed by a March Field aerial camera team in 1932. The coiled serpent in each picture is dimly visible near the four-legged animal. Bert Watts photo.

Giant Desert Figures Have Been Restored . . .

On the malpais mesa not many miles from Blythe, California, are a series of gigantic Figures outlined in stones. Obviously they are of prehistoric Indian origin—but their significance remains a mystery, even to archeologists. That these Figures may not be lost to future students of anthropology, the members of the Palo Verde high school under the leadership of their vice-principal, have restored them to their original forms—and here is the story of the discovery and restoration of these ancient relics.

By RANDALL HENDERSON

Map by Norton Allen

FLYING HIS little two-place plane at an altitude of 5000 feet above the channel of the lower Colorado River in 1931, George A. Palmer, a World War I pilot, saw clearly outlined on the malpais mesa on the California bank of the river below, the figure of a man in a prone position.

His curiosity aroused, he circled lower and discovered there were other figures on the ground, all of gigantic proportions.

Later, with companions from the

Los Angeles Museum, Palmer reached the site of the figures by automobile, and confirmed the discovery of some of the strangest relics of prehistoric Indian occupation known to archeologists in the Southwest.

Through the interest of the scientists, the artifacts became known as the Giant Desert Figures, and the California Department of Public Works designated them as Historical Landmark No. 101, and placed a bronze plaque on a stone monument along Highway 95 at that point to mark the location.

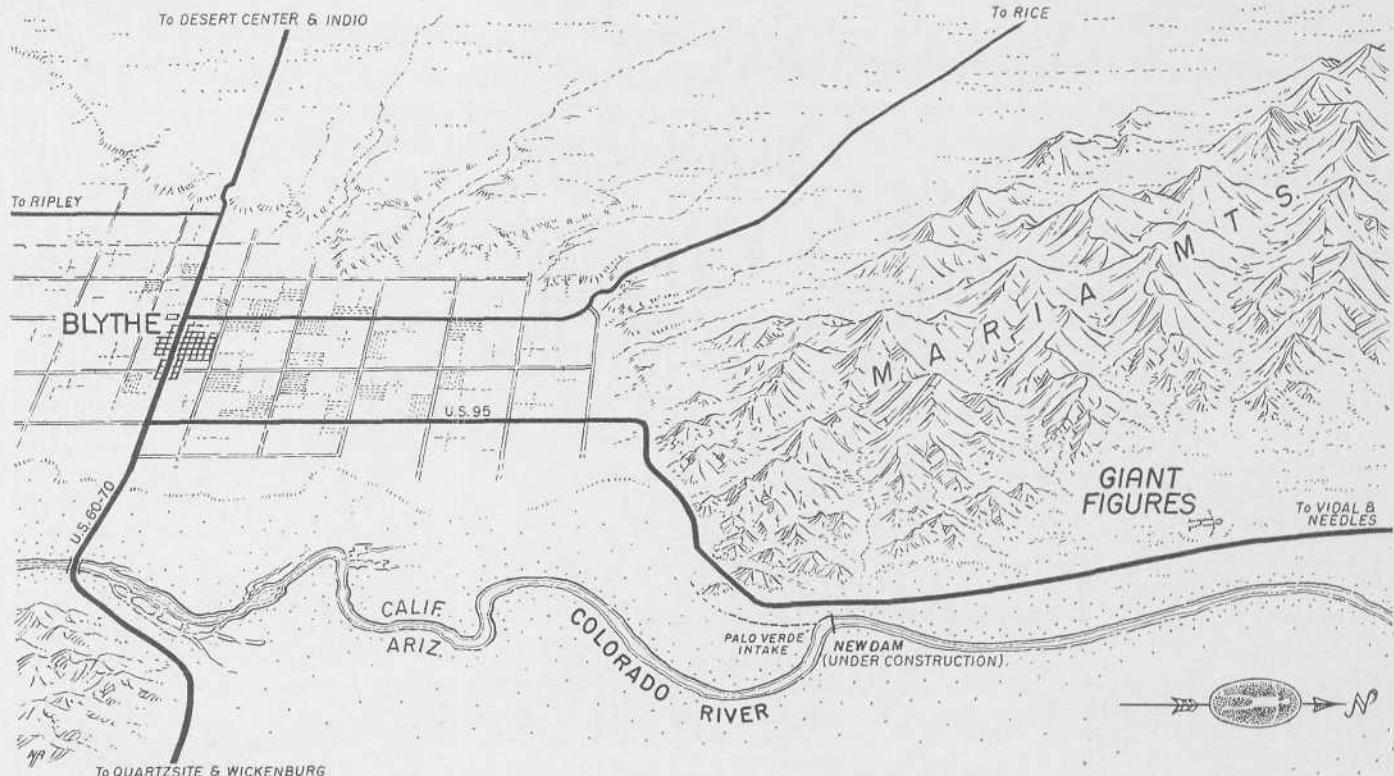
That was 25 years ago. Since then, with no resident custodian to protect them, the Figures suffered from the impact of thoughtless visitors and vandals. Finally, the State Highway Department, to prevent further destruction, covered the lettering on the plaque with plaster.

Such was the status of the Giant Figures in the spring of 1957 when DeWeese W. Stevens, vice principal of the Palo Verde high school at Blythe, decided something should be done for the restoration and preservation of these prehistoric landmarks.

DeWeese got in touch with members of the Desert Protective Council and the Blythe chamber of commerce, and received such encouragement that he took the project of restoration to the Student Council of his school, suggesting that the students devote some of their weekend time to clearing the area of tourist debris, and restoring the lines of the Figures in accordance with aerial photographs taken at the time of the original discovery.

The Student Council enthusiastically endorsed the project, and many of the members volunteered to devote weekend time to the restoration job.

In the meantime the Blythe chamber of commerce had given both endorsement and the promise of financial aid, and had named Collis Mayflower, former Riverside County supervisor, as



MOTOR LOG

- 00.0 Blythe. Go east on Highway 60
- 1.5 Turn left on Highway 95, going north
- 12.3 Palo Verde Valley intake (New dam under construction)
- 17.0 Turn left off Highway 95 on gravel road. Bronze plaque along roadside at this point.
- 17.4 Parking place near Giant Figures.

chairman of a committee to cooperate with the Student Council and raise such funds as would be required to insure protection of the Figures after they had been restored.

Under the direction of the vice principal, the students lost no time in tackling the job. On a Saturday morning, 12 of them, including Student Body President Richard Dill and Secretary Carol Richardson, motored to the site 18 miles north of Blythe, near the location of the Palo Verde Valley diversion dam now under construction, and with brooms, rakes and wheelbarrows worked diligently at the task.

Best proof of the prehistoric age of the artifacts was the coating of desert varnish on the pebbles with which they were outlined. Obviously, the tribesmen had carefully raked or brushed the small stones into ridges forming the outlines, removing the stones from the bodies of the Figures.

While the outlines were still quite distinct, the pebbles in many places had become scattered. It is a characteristic of these small mesa stones as they lie on the ground that the surface exposed to the sun takes a dark coating of

natural varnish, while the underside remains a light gray. The girls in the party even assumed the tedious task of turning over the stones which had been raked back into the outline ridges so the original coating of varnish would be exposed.

Foot trails and auto tracks which marred the mesa in the area surrounding the Figures were filled in and obliterated, and the entire scene restored to as perfect a reproduction of the original picture as possible. Mrs. Kirk Brimhall and Mrs. Wayne Dill of the Parent-Teachers' Association, mothers of two of the students, served refreshments to the workers.

Students participating in the project were: Leroy Barnes, Don Brimhall, Joan Buckelew, Challie Crews, Richard Dill, Linda Frey, Carolyn Funk, Dion Jeffcoat, Mary Frances Maresh, Carol Richardson, Judy Richardson, Marge Zander, Tom Zander and Darlene McCain. A majority of them are Student Body or class officers in the school.

It was decided that the best protection for the Figures would be heavy wire mesh fencing on steel posts set in concrete, and while the students were carrying on the restoration job, Collis Mayflower and his committee were securing bids and raising funds for the fence installation. Blythe businessmen contributed generously, as did the Desert Protective Council.

Two enclosures were installed, one around the 95-foot man's Figure, and the other enclosing the quadruped and coiled snake. There are other figures

higher on the mesa. Also reports of similar figures on the Arizona side of the Colorado near Cibola Valley, and farther north between the Maria and Riverside Mountains. However, none of these are as accessible as those near Highway 95, and for the present it is not felt that restoration or protective fencing are required.

The detailed story of the discovery of the Figures was told by George A. Palmer to M. R. Harrington, curator

DeWeese W. Stevens, volunteer director of the restoration, inspects an old marker sign which has been the target of vandals. This sign has been removed.



at Southwest Museum, many years ago. According to Palmer's report, he was operating an airport at Las Vegas, Nevada, at the time, and had decided to fly south for a visit with his brother, a Santa Fe railroad engineer residing at Ripley in the Palo Verde Valley, following a course between the Maria Mountains and the Colorado River:

"I was looking for a possible emergency landing field," he said, "when just ahead of me on one of the mesas I saw the figure of a man. As I drew closer he seemed to be stretched out on his back with his arms outspread, looking up at me. I circled several times for I wanted to get a closer look. Losing altitude to 2000 feet I saw the man was not alone. On the same mesa was a four-legged animal with a long tail, and still another figure—a coiled snake. Half a mile away I spotted two more figures."

After landing in the school yard at Ripley—there were few landing fields in those days—he told his brother about his discovery.

The next day the two of them flew back to the site, five miles north of the Palo Verde irrigation intake, for another inspection of the Figures. Then they landed in Blythe to inquire about the origin of the Figures. Blythe people had never heard of them and were astonished when told of the discovery. Later Palmer asked Mojave Indian friends about them, but the only response he got was: "They no Mojaves." One old Indian said he had never seen the Figures, but that on the Arizona side of the river he once saw giant hands and feet incised in the rock wall of a canyon.

Returning to Las Vegas, Palmer wrote to Arthur Woodward, curator of history and anthropology at the Los Angeles Museum in Exposition Park, describing what he had found. Woodward was keenly interested, and asked if aerial pictures could be taken.

In July that year with Dr. Charles E. Barrows as companion, Palmer again flew to the site for photographs. Dr. Barrows was astonished and delighted at what he saw.

Later when Woodward saw the pictures he remarked: "Mr. Palmer, you have made a real discovery. So far as I know, figures of this kind have never before been reported. I would like to go out and study them on the ground."

When cool weather came, Palmer, accompanied by Woodward and Dr. Charles Van Bergen, honorary curator of archeology at the Museum, motored to Blythe for a ground inspection of the Figures. They had arranged for an aerial photographic team from March Field to meet them at Blythe. Lieut. M. W. Kaye piloting a Fairchild cam-



Above—Restoring one of the coiled serpents. Left to right: DeWeese W. Stevens, Carol Richardson, Joan Bucklew, Mary Frances Maresh and Tom Zander. Bert Watts photo.

Below—Darlene McCain, Leroy Barnes and Linda Frey at work on quadruped with three toes. Bert Watts photo.

era plane, with Sgt. Steven McAlko operating the camera, had flown over the Figures that day and secured photographs, two of which are reproduced with this story.

Early the next morning the party left by auto to examine the Figures, and with landmarks well established on previous flights, had no difficulty in driving directly to the mesa. As Palmer related the experience:

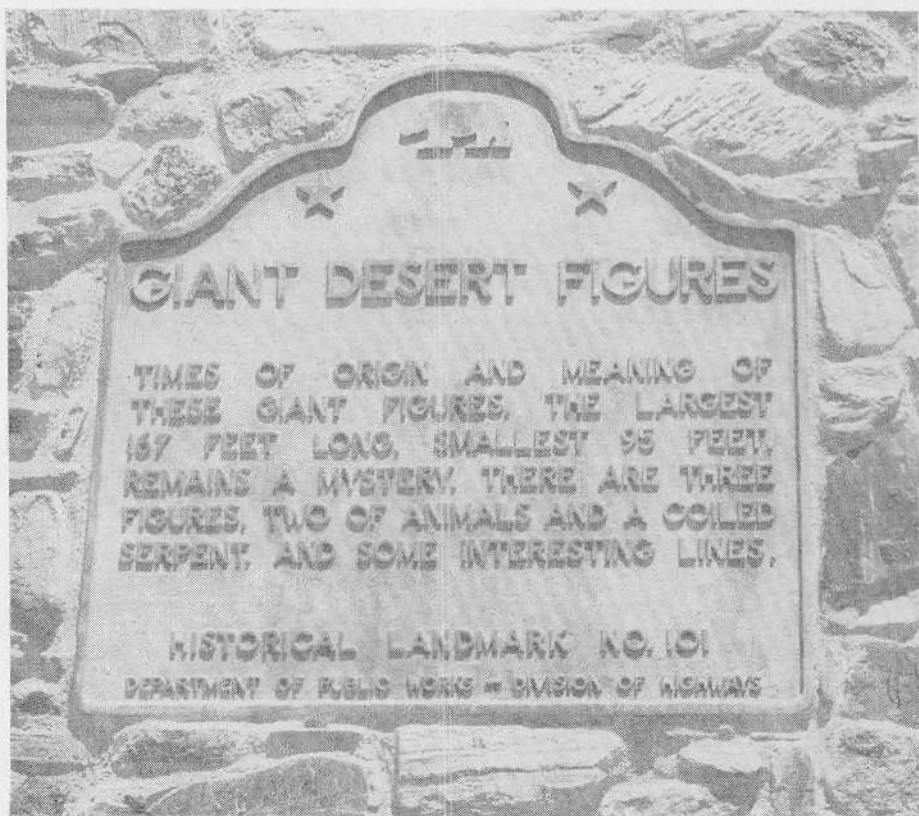
"There, stretching out on the ground before us, lay the Giant Figures. Now we saw they had been made by gathering small stones on the mesa top and arranging them in ridges to form the outlines. Inside the outlines the ground had been scraped clean, so the Figures stood out in striking relief when seen from the air.

"After some preliminary exploring, we measured each Figure. The man



Collis Mayflower, chairman of the Blythe chamber of commerce committee and DeWeese W. Stevens, standing, discuss plans for the protection of the Figures after the restoration is completed. Bert Wattis photo

Plaque erected by the California Department of Public Works to mark the site of the Figures as Historical Landmark No. 101. Picture was taken before the lettering was covered with plaster to discourage visitors. Since restoration, the plaster has been removed.



in the first group was 95 feet long, lying in a circle 142 feet in diameter. About 150 feet away was the four-legged what-you-call-it with a long tail. The animal was 36 feet in length, and just beyond lay a coiled serpent 12 feet in diameter.

"On the next mesa higher up was the figure of a man 98 feet long with outstretched arms 74 feet across. It was a stiff climb up to another mesa where lay the chief of the Giant Figures. He measured 167 feet in length and his outstretched arms were 164 feet across. Each hand had a normal number of fingers, and his feet were 16 feet from toe to heel, with toes plainly indicated.

"The group on this mesa formed a trinity, as on the first mesa—a man, a beast and a serpent.

"Mr. Woodward called the Figures 'gigantic intaglio pictographs.' His research later revealed that a similar figure was reported in the Pima country in Arizona in 1909. The Pima figure was believed to represent a gigantic woman—possibly a woman mentioned in some of the tribal legends. It also was reported that soldiers from Fort Yuma, traveling north along the Colorado River, had reported seeing figures of men and animals—perhaps the ones near Blythe—in 1859."

Since none of the Colorado River Indians have any knowledge of the figures, and no ideas as to their origin, they remain—like the petroglyphs incised in stone walls in many of the desert canyons—a mystery which archeologists have been unable to explain.

How long they have been there no one can say, but the coating of desert varnish on the rocks would indicate that their origin dates back not less than 200 years—perhaps much longer.

Why is the restoration and preservation of these artifacts important? Because they obviously had a significant place in the culture of the prehistoric men who placed them there, and while humans of this generation may not understand just what purpose they served, they throw an added bit of light on one stage of man's plodding climb up the ladder of evolution. Without some reverence for the religions and traditions of the past, the present would be quite meaningless.

And so, historians, anthropologists, archeologists — all persons who are students of past and present life on this earth — will be grateful to DeWeese Stevens, Collis Mayflower, and the teen-agers of Palo Verde high school who gave their time and interest to the restoration and preservation of the Giant Desert Figures.

In His Memory, a New Town

Men and machines again are gathering on the banks of the Colorado to drive another wedge of concrete and steel into its turbulent depths. Here, written by his daughter, is the story of engineer John Page who spent most of his life in the struggle to control this river, and in whose honor the Glen Canyon Damsite community of Page, Arizona, was named.

By JEAN PAGE KILLGORE

THE HOPES and dreams of John Chatfield Page, Commissioner of Reclamation from 1937 to 1943, have come to rest in the nation's newest town of Page, Arizona, at the site of Glen Canyon Dam. For over half a century the Colorado River has been the subject of much concern to engineers and people interested in the lands dependent on its tributaries, and during most of this period, John Page gave his time and energy to its development.

The son of New Englanders who homesteaded in eastern Nebraska, he early learned that man's well-being is essentially a matter of enough land and enough water for that land. Upon graduation from the University of Nebraska and after an additional year at Cornell University, he came to western Colorado as a surveyor on the Grand Valley Irrigation Project of the Colorado River. He was married there in 1914 to Mildred Sloan, a visitor to Grand Junction from Indiana. Their two daughters, my sister Mildred and I, were born in Grand Junction.

A man of restless energy, he threw all his strength into everything he undertook. I remember when he would come home at daybreak after 18 or 20 hours standing in muddy water helping the crew repair a cloudburst damaged flume, or clear debris from the irrigation canal. He spared himself nothing, having little regard for his own comfort, but great compassion for the welfare of others. His New England upbringing allowed no patience with outward displays of feeling; a man's strength was judged by his capacity for self-control.

Although he possessed a sharp sense of humor and a biting wit, I can remember few times when he laughed aloud, his most boisterous expression being an infectious grin. He was idealistic regarding the future of the arid West but had a hard-headed Yankee realism in his appraisal of men and situations. It was this characteristic combined with complete honesty with himself and with all people, that endeared him to everyone. There were few he didn't call friend, and with those few his concern was with matters of principle and not personality. He

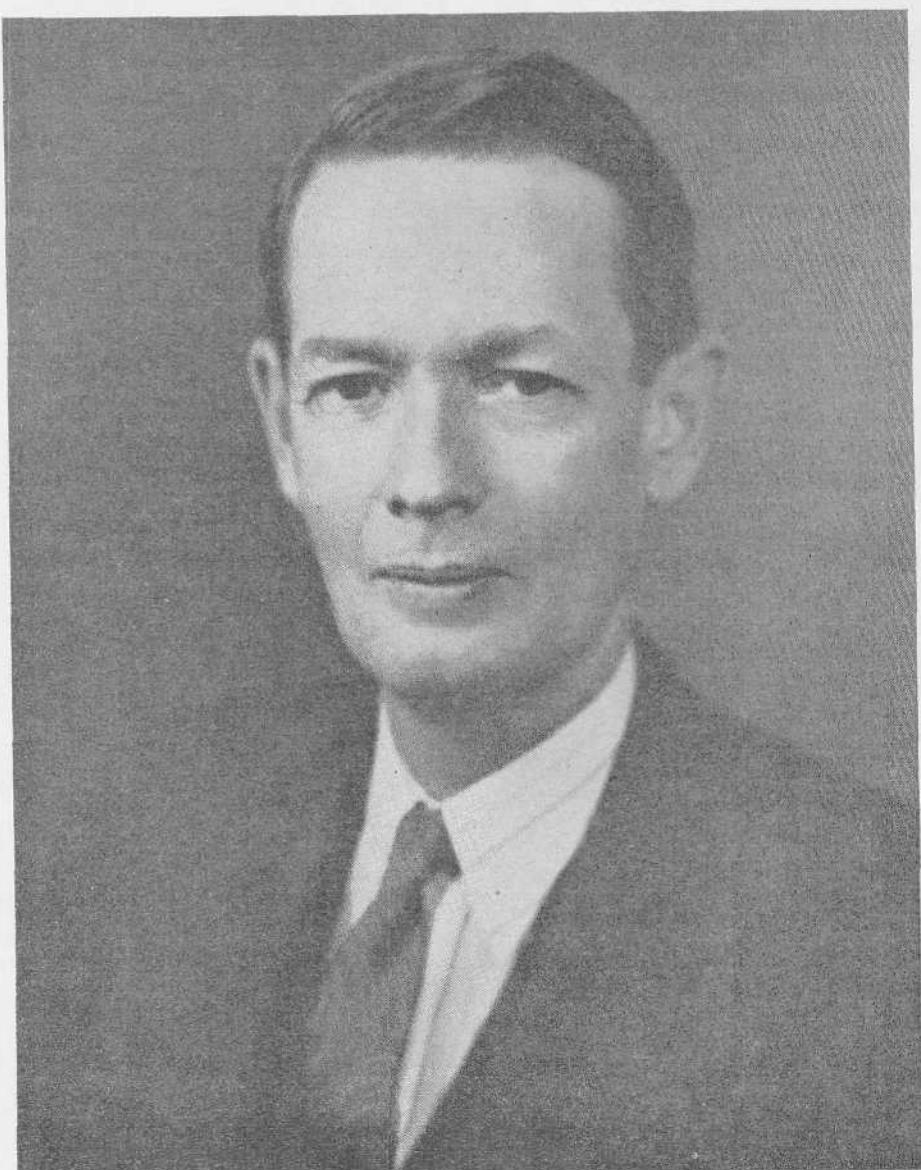
could approach a situation with great tact and diplomacy when necessary. This served him well many times, especially in later years as commissioner in Washington, D. C.

Although we lived in several different houses during the years in Grand Junction, my father always had an acre planted to corn, melons and strawberries. We always had a flock of chickens and for several years we kept

a cow. In spite of the time it took for his small-sized farm, he was an active Mason, member of the Chamber of Commerce, Lions Club and Y.M.C.A. He was an energetic participant and held office in several of these organizations.

Some of my brightest memories of these years are the fishing weekends the two of us spent on Grand Mesa. There I learned to catch, clean and fry a trout, to row a boat in a straight line for trolling on a lake, and to crouch uncomplaining in the cold mountain rain. To catch our limit was the end justified by any amount of misery from the weather. My father preferred fly-fishing to sitting in a boat with me, I know, but I think he must have realized what his companionship

John Chatfield Page



and cheerful patience meant to a 12-year-old tomboy. In later years he played golf when he could, but to prowl the banks of a swift-running stream, rod in hand, was the ultimate in enjoyment to him.

In 1930 he took up the duties of office engineer farther down the Colorado at Hoover Dam. This was an exciting challenge and he attacked it with the same driving energy. This project was by far the greatest engineering achievement yet attempted, a tremendous growing thing visibly tak-

ing form day by day. Here in the warmth of the desert and the pleasant town of Boulder City, Nevada, he grew tanned and lost the fine-drawn look he had brought from the mountain winters. He even added a few pounds to the 140 he normally carried on his nearly six-foot frame.

It was fortunate when he was called to Washington to take the job as commissioner that he was in good physical condition. All his resources were called upon during those first chaotic months of adjustment. There followed years

of fighting red tape, fighting for money for his beloved West; of being agreeable and holding on to his sense of humor. The only vacations he took now were trips combined with business; shaking hands and making speeches. No more bright days casting a line into a mountain stream; no more golf with friends on the rugged sandy course at Boulder City.

He met the tensions of the commissioner's office silently, but many nights we heard him pace the floor, or knew that he sat up until the early hours of the morning seeking escape in light Western fiction. His health, never robust, at length gave out, bringing 10 years of invalidism. At this time he retired to Denver. For almost three years, as long as he could drive his car, he spent as many days as he could as consulting engineer in the Denver Reclamation office. When he could no longer take even this active a part, the arid land and precious water and the reclaiming of the West continued to be the main interest of his life. He died in Lakewood, a suburb of Denver, in March of 1955 at the age of 67.

The new town of Page, Arizona, will be a living memorial to a man who dedicated a lifetime to the reclamation of the desert lands.

Announcing a New *Life on the Desert* True Experience Contest!

\$25 FIRST PRIZE

\$15 for all other manuscripts accepted for publication

Once again Desert Magazine is asking its readers to participate in the telling of the Desert story by relating their personal tales of human interest, adventure, inspiration and eventful experience.

There is no limitation as to subject matter so long as the story is set in the Desert Southwest and the other contest requirements listed below are met. Judges will select those stories which they feel will best contribute to the entertainment and enlightenment of the Desert Magazine family of readers.

Manuscripts should be from 1200 to 1500 words in length, and first award will be \$25. All other stories accepted for publication will earn \$15 for their authors.

Manuscripts should be true experiences, preferably of the writer, but stories written of and with the first hand knowledge of the desert experiences of others will be accepted. Tall tales and heresay stories are not solicited.

The contest is open to both amateur and professional writers. All manuscripts must be typewritten and double spaced, on one side of the page only. Leave wide margins on both sides of each sheet.

Entries should be addressed to: Life on the Desert Contest, Desert Magazine, Palm Desert, California, and must be postmarked not later than January 1, 1958, to qualify for the awards.

If 5x7 or larger photographs showing good sharp contrast are available, an extra \$3 will be paid for each used with the story. Pictures are not essential, however.

Writers must be prepared to supply confirmation as to the authenticity of their stories. Only true experiences are wanted.

All stories must be essentially of the desert, and the setting is limited to Arizona, Nevada, Utah, New Mexico, the desert portion of California, Baja California and northwestern Mexico.

True names of those involved must be given, although with the knowledge of the judges, fictitious names can be substituted if there is good reason for doing this.

If the story previously has appeared in print, this fact and the time and name of the medium in which it appeared must be given. All readers of Desert Magazine are invited to submit manuscripts.

Judging will be done by the Desert Magazine staff, and the decision of the judges will be final. Unaccepted manuscripts will be returned if accompanied by return postage.

EXPERTS EVALUATE ARTIFICIAL RAINMAKING

Federal agencies, after 10 years of study involving an expenditure of \$10,000,000, have reached three conclusions regarding artificial rainmaking:

(1) Cloud-seeding seems to produce significant increases in rain and snowfall over mountainous areas in cold weather, but there is no convincing evidence that it does any good over flat country.

(2) Artificial rainmaking is not a cure for general drought conditions such as those now prevailing in the Great Plains and along the Eastern Seaboard. Hot, dry areas which need rainfall most are precisely the areas in which cloud-seeding has the least effect.

(3) In the long run, cloud-seeding may prove to be more valuable for other "weather modification" purposes than for rainmaking. Some experiments indicate it can be used to suppress hail and lightning or to dissipate fog over airports. There is a possibility—still theoretical—that it can be used to break up the kind of storms that spawn tornadoes.

Researchers emphasized that man's ability to tamper with the weather is still very limited. There is no scientific basis at present for believing it will ever be possible to produce major changes in climate over a large area through cloud-seeding.—Nevada State Journal



Caravan stops a few hundred yards from the main collecting field along limestone-marked ridge in background.

Agate Wonderland in the Cadys . . .

South of the Mojave River in California's central Mojave Desert lie the Cady Mountains, isolated in the past by hostile escarpments, a short water supply and sand-filled washes. Today, four-wheel-drive vehicles are opening up this country. In the Cady's rugged interior members of the desert explorers' fraternity are discovering prized agate specimens. Along the way lies the beauty, solitude and inspiration found in all desert mountains.

By EUGENE L. CONROTT
Map by Norton Allen

THE EIGHT-JEEP caravan churned through the wash sand to the dark lava-strewn ridge on a flank of the bleak Cady Mountains south of the Mojave River. Loran Perry of Pasadena, dean of Southern California's four-wheel-drive gem hunters, pointed to the slopes marked with distinguishing white limestone outcrops. "There it is," he shouted. "The best agate field in the West!"

Loran had made a similar statement in his letter inviting me to join him on this trip. I was at a loss to understand how such a splendid gem locale could exist unnoticed in the heart of the Mojave Desert in this day of more and

more rockhounds, worked-out collecting fields and no trespass signs.

But, the rough ride into the Cady Mountain field answered that question. We were 33 miles from Highway 66 at Ludlow and for most of the last dozen miles our jeeps had created their own road through the blow sand of the open Crucero Valley and the winding wash.

In a December, 1948, *Desert Magazine* report on a field trip to the southern end of this massive mountain group, Harold O. Weight envisioned the possibilities of this field when he wrote:

"Since the same formations continue

for miles, there unquestionably is a great deal of fine agate and chalcedony waiting for the person willing to expend time and energy to find it."

Loran Perry, who is a printer and lens-grinder by vocation, has pursued the hobby of rock collecting and polishing for 25 years. Exploring the Cady Mountain area, he had confirmed Weight's prediction. Although Perry was not the first rockhound to discover this collector's paradise, he probably was the first to become fully aware of its great potential. In seven trips to the area in the last three years, he has led many other collectors to this field.

Following the instructions in his letter, Jeanne and I drove to Ludlow, the small railroad and mining town in Broadwell Valley 50 miles east of Barstow. This is the last place food, gasoline and water are available.

Ludlow was the southern terminus of the Tonopah and Tidewater Railroad, built between 1905-07 by Pacific Coast Borax Company to replace the 20 Mule Teams. The line connected with the Santa Fe Railway at Ludlow,

with the Union Pacific at Crucero (25 miles north of Ludlow) and with the Las Vegas and Tonopah Railroad at Gold Center, Nevada. The T&T was 167 miles in length and cost \$25,000 a mile to build. The peak and prosperous years of the line ended in 1928, when borax operations at Boron got underway and those in Death Valley closed down.

On October 8, 1933, the southern leg of the line—from Ludlow to Crucero — was discontinued. The tracks were hauled away, but the grade and

ties remain. A two-strand telegraph line and well-bladed dirt road follow the T&T through the flat valley, rimmed on the west by the canyon-etched Cadys and on the east by the Bristol Mountains.

As we drove up this road I concluded that Broadwell was the driest desert area I had seen during a spring when wildflowers were abundant in other parts of the Southwest. Greenery was at a premium and it seemed each struggling plant grew unchallenged on its acre of soil. Records show an an-

nual average rainfall of less than two and a half inches for this area, and apparently it has always been uncommonly dry. In the '80s, after several unsuccessful attempts to find underground water at Ludlow, the Santa Fe Railroad shipped carloads of it into town daily.

From Ludlow to the collecting field we saw frequent evidence of jeep-borne prospectors, their uncharted tracks scooting off at frequent intervals from the main trails. This country has had a spasmodic mining history, most of it taking place during the world wars—gold, celestite strontium ore, sand and gravel, manganite, fluor-spar and others.

Beyond a long narrow playa and 12.6 miles from Ludlow, we crossed the power pole line and its maintenance road angling down from the Bristols. The mountains closed in to form a sandy pass connecting Broadwell Valley with Crucero or Soda Lake Valley to the north.

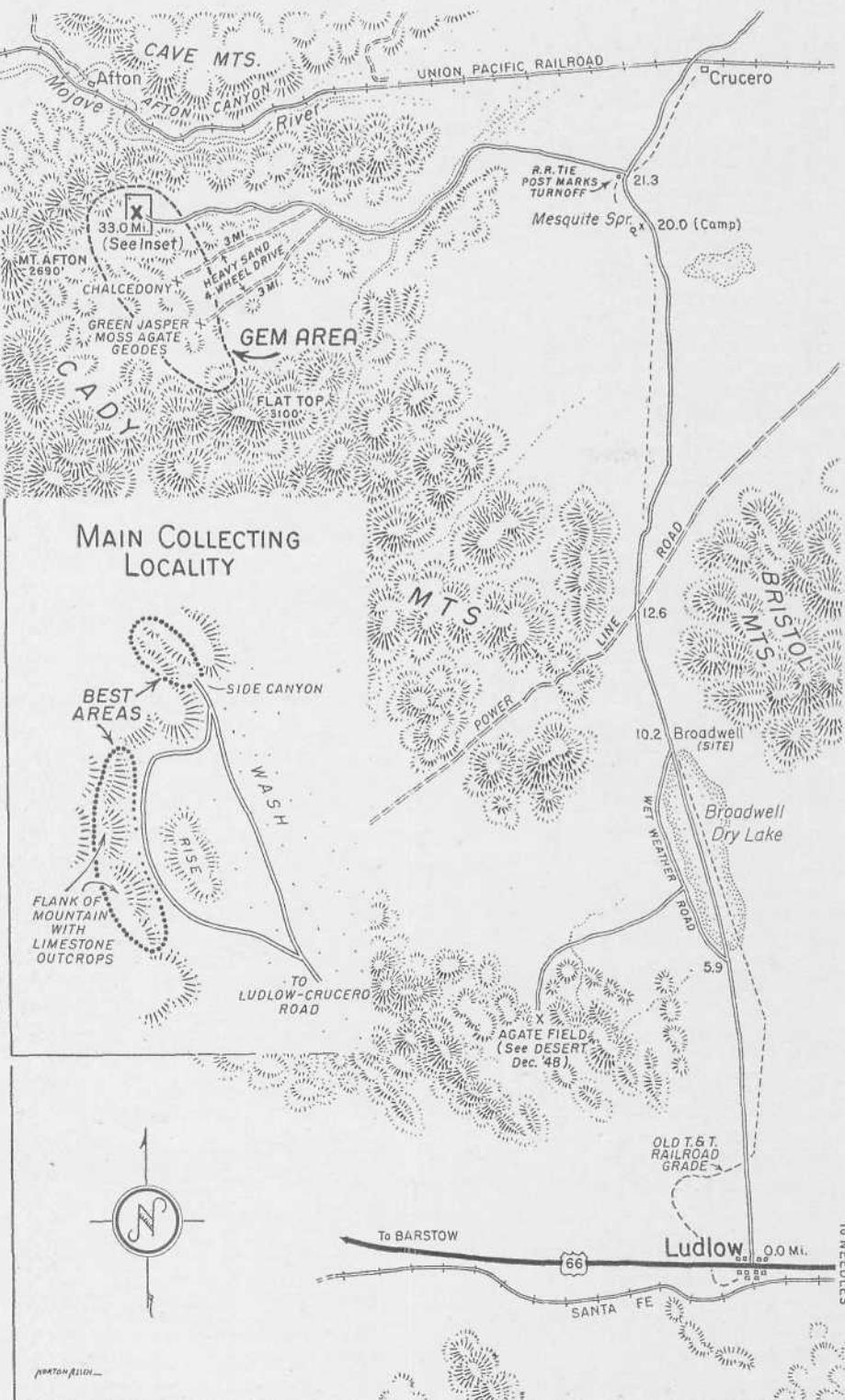
As we drove through the pass I had the feeling that we were moving through the aperture of a huge hour glass fashioned by Nature out of these two valleys. There are a couple of bad pitches in the road here and some loose sand where cautious driving is called for.

At 20 miles from Ludlow we pulled into the camping area on the sandy slope a quarter of a mile below Mesquite Springs and met the other members of the Perry expedition. This is about as far north of Ludlow as conventional cars can travel.

The wind was howling through the granitic hills above us and while the rotting railroad ties afford an unlimited wood supply, it was blowing too hard for a fire.

I hiked to the tangled clump of vegetation at the spring and in the dim light of dusk saw the evidence of a coyote's scratchings for water. This must be an important waterhole for the wild things in this arid and shadeless area. That wandering Indian tribes also used this spring is certain for in the rocks above we later found pot shards and petroglyphs. Two Puebloan sites near here are listed in Mojave Desert archeological maps.

At Mesquite Springs we were at the northeast corner of the 200-square-miles of jumbled peaks, ridges, washes, valleys, bajadas and flats that are the Cady Mountains. This is a relatively low mountain mass, the highest peaks ranging from 4000 to 5000 feet. Cutting its way north and east from the center of the Cadys into the Crucero Valley is a main drainage system and in the headwater regions of these





Members of the party plant a railroad tie into the ground to mark the intersection of the Ludlow to Crucero road, center and curving to right, and jeep trail up main wash to collecting fields. Abandoned Tonopah and Tidewater railroad crosses Crucero road in foreground. View is northward.

washes the collecting fields are located along a five-mile belt.

Early the next morning we broke camp and from Mesquite Springs took a cross country course through the malpais ridges and sandy side canyons. Our general destination was that region a dozen miles west between prominent 3100-foot Flat Top Mountain and 2690-foot Afton Peak which dominates the landscape. In the crisp morning air the broken land between lay like a frozen ocean seemingly capable of defying the best of navigators.

After a half hour's maneuvering, we came to the main wash. It is a smooth-bottomed and colorful boulevard supporting large stands of stunted smoke trees and green catclaws. In a few of the trees, hanging like oversized bird nests, were parasitic mistletoe clusters. The wash is several times intercepted by side washes draining down from the heart of the Cadys. Loran has explored most of these avenues and they lead to colorful jasper and agate fields along the collecting belt.

After emerging into a large open plain 12 miles west of the abandoned T&T tracks at Mesquite Springs, the white outcrops of the main collecting area across the way came into view. It lies along a low dark curving bench. On the lower levels are the weathering limestone mounds and at the far end behind the first rise are a remarkable group of saw tooth peaks bending southward.

We fanned out over this ridge and in the flat below and soon several in

the party found the prize specimen this location offers: sagenite agate in a unique sunburst pattern. Practically every color in the rainbow has been used by Nature in these delicate specimens and the other agates here. The best field method to distinguish the better stones from those that will not cut and polish is to look for the sharp and smooth cleavage of the unusually heavy specimens, indicating interiors of solid agate.

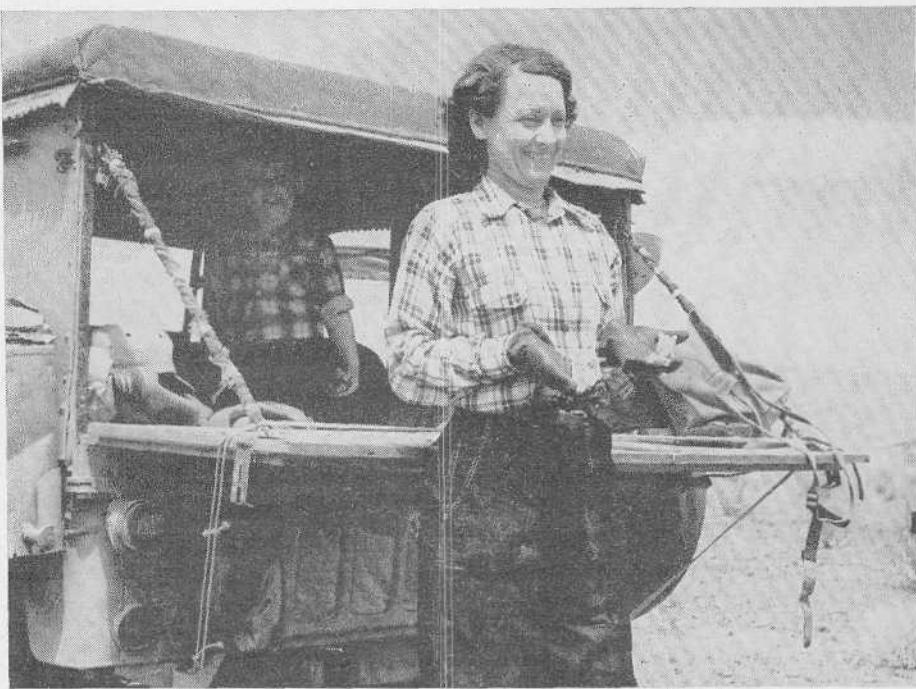
Near the top of the slopes are the yellow and red jasper outcrops and the trickling trail of weathered stones below them. Some of the jaspers are banded types, others mottled and lacy.

Also we found calcite and quartz crystal specimens; dog tooth spar in a rare leafy quality; drusy quartz (sugary quartz crystallization); and ample clear chalcedony.

Especially pleasing to Jeanne were some beautiful nubby chalcedony spe-

Loran Perry, left, and Jerry Rollings inspect a weathered outcrop of onyx-like cutting material along the banks of the wash leading to agate field.



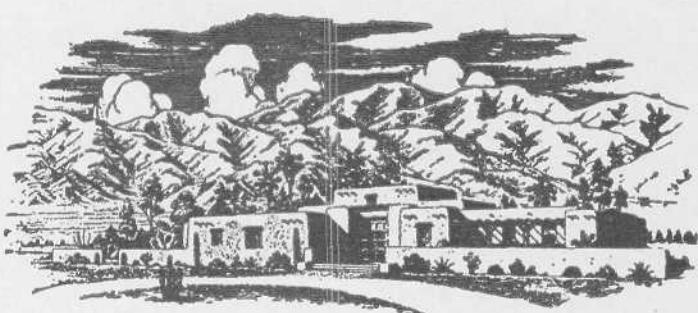


While her husband hunts for stones that will cut and polish, Rose Perry searches the desert for unusual mineral specimens. Here she shows off two "braggin' rocks."

cimens which looked like milk glass after we cleaned off the dirt and stains with oxalic acid baths.

Several times throughout the day, when the sun broke through the dull

clouds that had been gathering since morning, we saw glittering reflections from among the ghost gray vegetation on the hillsides. It was a relief to know that quartz crystals—and not tin cans



You Are Cordially Invited . . .

. . . to visit and enjoy the outstanding exhibit of Southwestern art in the spacious foyers of *Desert Magazine's* beautiful Pueblo along Highway 111 between Palm Springs and Indio, California. The finest work of more than fifty of the Southwest's best known artists make up this ever changing display.

Visitors are always welcome at the admission-free *Desert Magazine* art gallery which is open seven days a week from 9 a.m. to 5 p.m.

Adjoining the art gallery is the Desert Book and Crafts Shop where the best of current Southwestern books are available for your reading enjoyment. Visitors may browse at will in the restful atmosphere of the gallery and book shop.

Friend or Stranger, you are welcome here.

—were peeking down at us. In fact, Jerry Rollings of Arcadia found one of the prize crystal specimens of the day by tracking down a hillside reflection.

Everywhere in this field is the peace and quiet, the stretching horizons that are the real treasures of a field trip. From the north occasionally came the rumble of a freight train on the Union Pacific line running along the Mojave River. Actually, it would be much shorter from a paved road to enter this field from the Afton siding on this line, but the river canyon jeep trails are rough and almost inaccessible. Only the best and most experienced jeep drivers should try this short cut.

In this land of little water there is limited evidence of wildlife, and yet, as if in mocking contradiction, Nature has provided a home in the Cave Mountains across the canyon cut by the Mojave for a band of wild horses. Loran recently saw some of these wild animals—a stallion and four mares—a beautiful sight that will live with him forever.

After lunch we moved northward along the ridge to a side canyon which offered the same good rock collecting plus added rewards to the photographers with its colorful weathered walls.

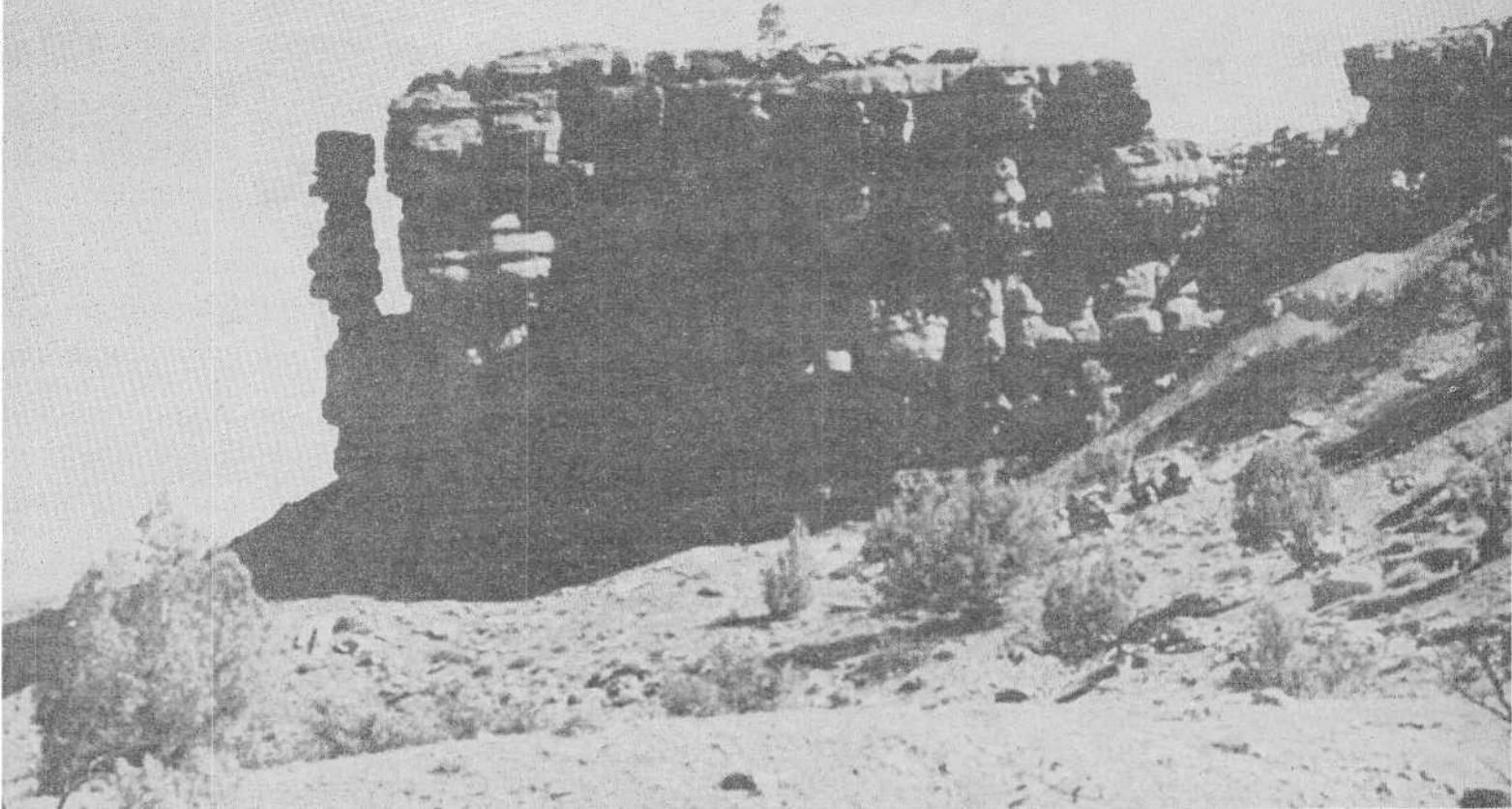
And then we headed back to Mesquite Springs, but instead of leaving the main wash at the point where we had dropped down into it from the side washes and ridges behind Mesquite, we cut a new trail eastward down the ever-broadening valley to the T&T line.

Each creosote clump along the way held in its scraggy arms a wind-gathered dune, but rare was the plant that reached the jeep's fender. This valley is part of the Soda Lake drainage basin and in the World War I days 10,000 of its sandy acres were taken up by hopeful homesteaders. What a heartbreaking wait for crop-growing rains they must have had! In a few years they were gone—and on June 14, 1940, the Tonopah and Tidewater was completely abandoned. That ended any hopes Crucero might have had for becoming a town.

Our convoy reached the main bladed road at the point north of Mesquite where the T&T grade and pole line cross from the west to the east side of the road.

At this junction we planted a railroad tie end up into the ground and nailed a tin plate to it with a rusted spike. Thus rockhounds who follow our trail will have a boulevard sign to direct them up the canyon to the fields we visited and those still unexplored in this agate wonderland.

And then we followed the Tonopah and Tidewater to Ludlow and home.



Old-timers in Utah's Capitol Reef National Monument where the above rock formation is located called it "Mr. Pendleton" after one of their neighbors. More recently the Park Service has given it the official name: "The Motorman."

Photo by Clare H. Ebeling.

FAITH RENEWED

By LOIS BERRY
Needles, California

Driving along a desert trail—in that hour before the dawn—
I straightened at the steering wheel—suppressed a weary yawn—
As suddenly, behind the peaks there burst a golden glow
That limned the purple mountain tops splashed with glist'ning snow
Shimmering in the yellow light — which, followed by the fire
Of crimson and vermillion, converged to form a spire
Cathedral-like in majesty: and in God's church I bowed;
And humbly, with a lifted heart, I said my thanks, aloud.

• • •

LAKE MOJAVE AT EVENTIDE

By MILDRED BREEDLOVE
Las Vegas, Nevada

How strangely you lie in this desolate place
Flaunting green water with organdy lace!
Water as green as an orchid's throat,
Ruffles as white as an ermine coat.
Bathing the rocks on your cream-colored bars,
Waiting for night and its over-sized stars,
To settle again to an indigo glass
Reflecting the heavens to eagles that pass;
Wind as unyielding as eagles in flight
Shows no respect for a lowering night.
Sun, growing weaker, drops low in the west
Releasing the sections he long possessed.
Hills that were brown but an hour ago
Turn purple and pink where the Joshuas grow.
Snow-water from mountains that reach for the sky
Becomes one with the desert—the same as I.

Born of the Ages

By RUTH A. INGLESBY
Torrey, Utah

Born of the ages in eons past,
Carved by the rain and the mighty blast
Of desert wind as it whipped the sand,
Truly the work of a Master's hand.

Born of the ages and there is he
Standing in splendor for all to see.
Reaching out from the depth of time
Into a day of man's design.

Born of the ages and there alone
He stands on a pedestal of stone
Where silence and dignity holds fast,
A faithful guard from the ageless past.

• • •

NIGHT CANTO

By GRACE R. BALLARD
Santa Barbara, California

The white moon gleams across the chaparral
And throws black shadows under shrub and tree;
I walk along a country road; the smell
Of white sage, pungent with the warmth of sun,
Distills a fragrance with a mystic spell;
Sweet incense on the altar of the night.

A white-tailed rabbit scurries from my sight;
His fleet form bobbing in and out of shade;
A madrigal of tiny insects seems
A muted setting for forgotten dreams,
As warm winds whisper of nostalgic things,
A cow-bell tinkles softly, then is stilled;
My heart shall know content when evening sings;
The dusty road winds quietly toward home.

SAND AND SUNSET

By ALICE BENTON
Albuquerque, New Mexico

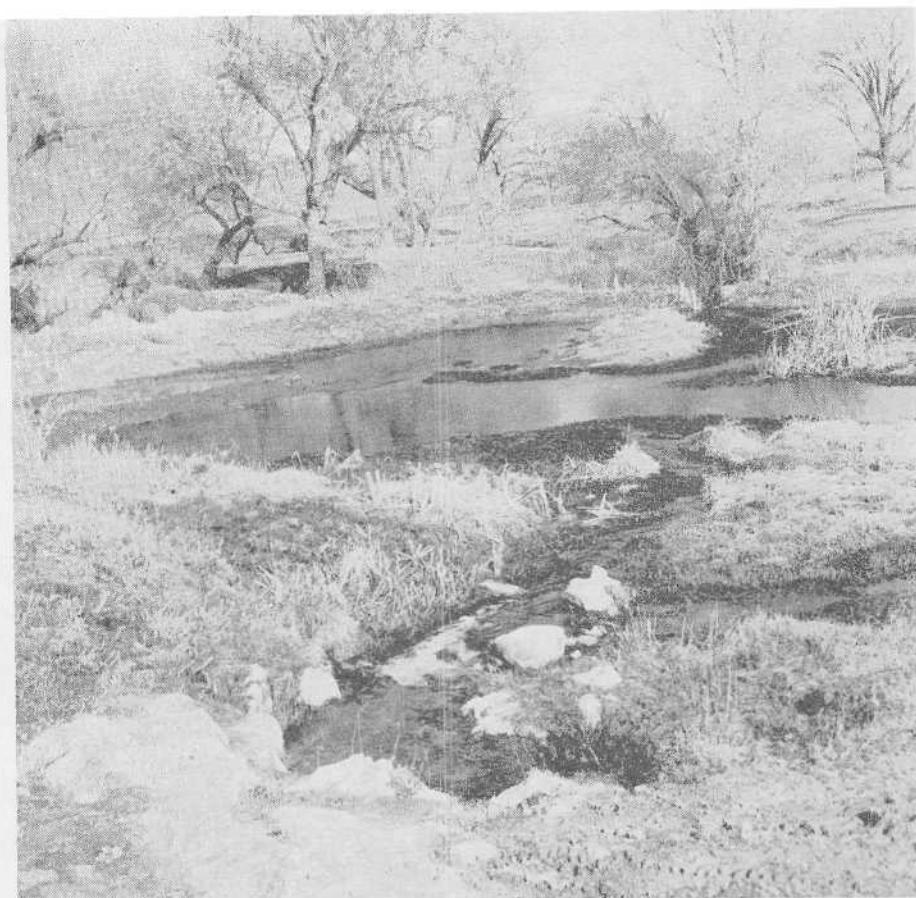
All day the sand had whipped the desert waste,
In a wide and lonely land of little rain.
Entrapped therein, a struggling wanderer faced
The swirling, cutting cloud that swept the plain.
Malevolent and vengeful seemed the force,
Which broke upon him, loosing violent hands
To clutch and tear him from his wonted course,
And hurl the piercing darts of stinging sands.

But, in the evening, when an unseen power cried, "Peace," the traveler looked up to see
The west a blaze of splendor, for an hour
Of thunderous, full-stop, organ melody,
With sand and wind forgotten in a light
Of glory, halting, holding off the night.

Preparation

By TANYA SOUTH
San Diego, California

A glint of sunlight through the murk,
A glimpse of Truth through strife and work,
A flash of Light. Such slow advance!
Yet none of it is left to chance.
For preparation on the Path
Is influencing every breath,
And preparation is a part
Of every ending, each new start,
Of everything that we may make—
For we must earn what we would take.



HISTORIC DESERT
WATERHOLES X

Crystal Springs

Down through the years, the constant flow of water which bubbles from the earth at Crystal Springs, Nevada, has seen a strange procession of life — emigrants, prospectors, west-bound colonists, cowboys and herds of stolen livestock. Others came to build a community and farm the land—and all of them have passed on after a pause here of a few hours or a few years. But the springs continue to flow.

Crystal Springs, site of the first Lincoln County seat in 1865 and rendezvous for early-day horse thieves, has no residents today. The largest spring is shown pouring out its flow in lower foreground. Other springs at right and to the left of large cottonwood produce a joint flow in excess of 5000 gallons a minute.

By DON ASHBAUGH

FED BY SPRINGS which gush 5000 gallons of pure water a minute, Crystal Springs in the Pahranagat Valley is one of southern Nevada's most dependable watering places. Although these springs contribute an important share of the water which makes Pahranagat Valley an agricultural oasis, the community which was once located here has disappeared. Today only Hereford cows come here for water.

Before the days of the White Man, Crystal Springs was a favorite Indian camping site. The earliest recorded visit by whites is believed to have been made by the ill-fated Death Valley party in 1849. If these pioneers did not visit Crystal, they most certainly stopped at Hiko Spring, only five miles north. The Forty-Niners were directed to the water by a map credited by most historians to Barney Ward.

The Diary of Sheldon Young, a member of the Jayhawker Party, noted on November 19, 1849: "This day went five miles. Came to plenty of grass and water . . . had best grass since we left the Platte."

The following day he wrote: "This day we left Ward's Muddy and bore off a southwest course and struck another valley." Ward's map probably

showed the stream from the Pahranagat springs as a west fork of the Muddy, he not being familiar with the area's geography.

It is evident that the second entry took the '49ers across the Pahranagat Mountains where they jogged southwest through Emigrant Valley, little realizing that these springs would provide their last good water until they reached Furnace Creek.

In later years many travelers used portions of this route as an alternate to the Mormon Trail, keeping further south through Pahrump and rejoining the southern pathway around Stump Spring. Mormon history records Crystal Springs as a principal watering place on this alternate trail.

The "White Mountain Boys" scouted westward from Parowan in 1858 for resettlement locations for the Saints in case of trouble between the church and the federal government. They went as far as Crystal and made their headquarters there while investigating the valley.

Then horse thieves and other renegades discovered this well-watered area. Stock stolen along the northern routes and at mining towns was driven south through the White River Valley. The rustlers erected rock and brush houses around the springs while their stolen animals fattened on the lush

valley meadow grasses. The isolated valley provided a perfect haven for the outlaws. One Mormon traveler counted 350 different brands on livestock grazing in the vicinity.

In 1865 the Nevada legislature provided for the establishment of Lincoln County. With a party, Governor H. G. Blasdel traveled south through Death Valley to inspect the southern Nevada area, and ran out of supplies in Amargosa Valley.

After frightful hardships, the party reached Pahranagat, but found too few citizens in the area to create a county government. However, the governor named Crystal Springs the provisional county seat.

Two years later John Ely discovered ore in Irish Mountain, and a horde of newcomers were attracted to the valley. He and his partner, William H. Raymond, erected their mill at Hiko in 1866. The spring at Hiko, which means "White Man" in the Shoshone tongue, flows 2700 gallons of water a minute.

When actual county government was established in 1867, Hiko was made the county seat. That ended Crystal's brief period of glory.

"The last fellow living at Crystal Springs was a man named Frenchy," John Richard, valley pioneer and former mail carrier, told me. "Frenchy left about the turn of the century and went to Bishop, then to Rhyolite. Nobody's lived at the springs since, as far as I can remember."

The Tempiute Highway, State Route 25, was paved this year. It travels past Crystal Springs and over the old pioneer route across the mountains.

The Antiquities Laws and You . . .

Generally, the laws of the land are for the protection of the many from the thoughtlessness or the greed of the few, and that is especially true of the Federal Antiquities Act, and of legislation passed by most of the states for the preservation of Indian artifacts, fossils, ancient ruins and other evidence of prehistoric life in America. In order that Desert Magazine readers may know just how far they may go in the realm of trophy hunting without violating the legal enactments, Oscar Deming has prepared the following brief.

By O. V. DEMING

THE POTTERY showed evidence that the ancient Indian woman who had made these ollas was a skilled craftsman, and the designs with which she had decorated them were well preserved. I was pleased with these new possessions which I had just excavated from an old Indian burial site.

I did not notice the stranger until I turned around, and my elation turned to dismay when he calmly informed me that I was under arrest.

A few hours later I stood before a judge and heard him pronounce me guilty of violating Public Law 209, an act for the preservation of American antiquities. He fined me \$500 and gave me a suspended jail sentence of 90 days.

That the above incident is hypothetical pleases me no end, but it could have happened to me, or to many other Americans who, generally unwittingly, violate one or more of the laws which prohibit collecting artifacts, fossils and other material defined as "antiquities" on the public domain.

In general, these laws offer protection to historical landmarks; prehistoric ruins; ancient burial grounds; fossilized wood, bone, shell and footprints; petroglyphs; pictographs; speleological sites; archeological sites; Indian artifacts; and other objects of historic or scientific interest on all lands under federal or state control or ownership, unless specifically excepted. They do not apply to private land unless the owner requests such protection.

Public Law 209, enacted in 1906, is, to the best of my knowledge, the first of these acts passed in the United States. It and the others were created to stop the looting and destruction of



Vandalism by hunters on sign posted to protect petroglyphs at Parowan Gap, Utah. Photograph by the author.

antiquities by untrained individuals and groups, so scientific studies could be made of these sites. This research adds to our knowledge and understanding of the past life of this continent, and the growing number of scientific publications being made available to the public reflects the mounting interest in these ancient relics and the stories they tell.

Many of the more spectacular antiquity sites, such as the cliff dwellings of the Southwest, Dinosaur National Monument and the natural bridges of Utah, and petrified forests in Arizona, to name but a few, are protected for the wonder and enjoyment of posterity.

Only with a permit can a person collect, explore or excavate antiquities on government land, with the exception

of National Forests where the collecting of Indian artifacts, when such relics are found on the surface, is allowed. However, a permit is needed to dig or excavate for artifacts on forest lands.

State laws are patterned after the federal act, but there is some variation. Nevada, for example, is the only state I contacted that specifically protects speleological sites, although such sites probably could be protected in other states by the broad interpretation of existing laws.

In recent years, the increased mobility of the public has resulted in growing vandalism and looting of areas and objects that could have added to our knowledge and enjoyment of the outdoors.

Thoughtless and greedy persons in

Summary of Antiquities Laws

FEDERAL

Public Law No. 209, 1906

Jurisdiction over ruins, archeological sites, historic and prehistoric monuments and structures, objects of antiquity, historic landmarks and other objects of scientific or historic interest is given to the Departments of Agriculture, Interior and Defense on all lands under their supervision.

Permits for collecting, examining or excavating antiquities are granted by the Secretaries of the above Departments on lands under their respective jurisdiction. Permits are issued only to reputable museums, universities or other scientific institutions.

Any person authorized by the Secretaries of the respective Departments may apprehend violators of this law. Objects of antiquities, taken without permit, can be seized by authorized persons.

Violators, upon conviction, may be fined not more than \$500 or imprisoned for a period of not more than 90 days, or both.

Exception: Individuals may collect Indian artifacts found on the surface of the ground on National Forest lands without a permit.

ARIZONA

Article 4, Chapter 4, Title 41,
ARS, Sections 41-771, 772

Any person making investigations in or on prehistoric ruins, ancient burial grounds, fossilized footprints, hieroglyphics, or other archeological features of this state, either on federal or state lands, shall first obtain a permit from the archeological branch of the University of Arizona and from the board of supervisors of the county in which the exploration or archeological working is to be undertaken.

Any person violating this Article is guilty of a misdemeanor punishable by a fine not exceeding \$500 or by imprisonment in the county jail for not more than six months, and in addition, shall forfeit to the state all articles and material discovered by or through his efforts.

CALIFORNIA

Section 622½, State Penal Code,
(1039)

Every person, not the owner thereof, who willfully injures, disfigures, defaces, or destroys any object or things of archeological or historical interest or value, whether situated on private lands or within any public park or place, is guilty of a misdemeanor.

A misdemeanor is punishable by imprisonment in the county jail for a period not to exceed six months, or a fine not to exceed \$500, or both.

No information is given in this Section on how to obtain a permit or who may be deemed qualified to get a permit.

NEVADA

State lands—Senate Bill
No. 106, Chapter 210, 1953

Any person or organization desiring to explore, investigate, and excavate in or upon prehistoric ruins, ancient burial grounds, fossilized footprints, hieroglyphics, speleological sites, archeological sites, Indian artifacts, historic and prehistoric monuments and structures, objects of antiquity and historic landmarks and/or other objects of scientific or historic interest on state or federal lands shall first obtain a permit from the board of directors of the Nevada State Museum.

It shall be unlawful for any person or persons to commit vandalism upon objects of scientific or historic interest, as defined in this act.

Any person or society can collect minerals, rocks, gems, plant life or butterflies in small quantities and photograph petroglyphs, pictographs or historical monuments without a permit on state lands.

Violators convicted may be fined not less than \$10, nor more than \$500, be imprisoned in the county jail for not less than 30 days nor more than six months, or both fined and imprisoned.

State Parks—Chapter 85, page
185, 1935 Statutes

The cutting or removal of timber, destruction or removal of buildings or camping facilities and the removal of historical relics or natural specimens such as petrified trees, petroglyphs and other relics or materials is prohibited within State Parks.

Convicted violators may be fined not less than \$20, nor more than \$500, or be imprisoned in the county jail for not less than ten days nor more than six months, or both.

Exceptions: A recent interpretation of the above laws by the Nevada State Parks Commission makes it unlawful to remove petrified wood from a monument, state park or any locality posted by the State Parks Commission. Outside the restricted areas rockhounds may collect samples in small quantities on state lands, but commercial collectors are not welcome.

NEW MEXICO

Act for the preservation of the scientific resources of the state,
H.B. 124, 1931

Any person who appropriates, excavates, injures or destroys any historic or prehistoric ruin or monument

or any object of historical, archeological or scientific value on land owned or controlled by the state without the recommendation of the Science Commission and the consent of the State Land Office Commissioner, is subject to a fine of \$500 or imprisonment for not more than 90 days, or both.

Only individuals representing institutions which the Commission deems properly qualified, can examine ruins, excavate archeological sites, and gather objects of antiquity. Not less than 50 percent of the specimens so collected by non-resident institutions are retained by the state.

OREGON

Oregon Laws, Chapter 380-381,
Sections 1-5, Senate Bill 265,
1935

It is unlawful to excavate and remove from the lands owned or leased by the State of Oregon or any of its boards, bureaus, commissions or public institutions any material of an archeological, historical, prehistorical or anthropological nature without first obtaining a permit from the state land board and the president of the University of Oregon.

Any individuals or institutions who excavate or remove from state lands any of the above mentioned items without a permit may be prosecuted and all materials and collections become the property of the state of Oregon.

UTAH

Senate Bill No. 62, 1957

Before any exploration or excavation in or on any prehistoric ruins, pictographs, hieroglyphs or any other ancient marking or writings or archeological or paleontological deposits on any public lands, either state or federal, shall be done, a permit shall first be obtained from the state park and recreation commission and from the board of county commissioners of the county wherein the same is to be undertaken.

Enforcement of this law rests with the state park and recreation commission. No part of any ruin or deposit covered by this law shall be removed from the state without the consent of the state park and recreation commission and the board of county commissioners wherein the ruin or deposit is found.

Any person violating this act or the rules and regulations shall be guilty of a misdemeanor and upon conviction thereof shall, in addition to any other penalties imposed, forfeit the articles and materials discovered by or through his efforts.



University of Arizona Archeological Field School at Point of Pines. Knowledge comes from investigating ruins under trained supervision. Many research organizations welcome aid from individual and club volunteer helpers. Photograph courtesy W. W. Wasley.

California promiscuously dug in Indian mounds, leaving gaping holes and piles of dirt. On private lands ancient shell mounds often have been leveled and the soil, shells and evidences of prehistoric people hauled away for lawn or garden soil. Seldom do private land owners notify scientists when they uncover evidence of human occupancy.

In Nevada, largely because of recent vandalism and large scale looting by commercial dealers and others, the laws have been strengthened and an active program of apprehending and prosecuting violators has been carried on by the State Parks Commission. One case that demanded and received immediate attention was the recent uprooting of fine specimens of petrified wood with bulldozers and dynamite.

Those who have the thankless job of protecting the natural wonders of Ne-

vada understand the need and value of outdoor recreation, however. Recently the Commission liberalized its interpretation of the laws, and announced that rockhounds could collect small samples of petrified wood in areas not posted by the Commission, but dealers were not welcome. Authorities still intend to stop the wholesale removal of petrified wood and fossil material from public lands.

The disregard for such laws is widespread. It is not unusual to read newspaper accounts of cave or dwelling excavations made by untrained individuals who could not qualify for permits. Artifacts, fossils and other materials always are available for purchase from such persons, along with books which tell how to get to collecting areas protected by law. Even rock clubs have described in their bulletins

field trips made to closed areas. One of the most frequent example of this concerns the collecting of gem stones in Death Valley National Monument.

Of necessity, restrictive laws limit the activity and enjoyment of the many in order to control the mercenary and thoughtless action of the few. All that has saved these despoilers from prosecution is that the lands protected generally are vast, and those who enforce the laws are few in number. If vandalism, commercialism and destruction continue, I expect even stricter laws and better organized enforcement programs.

Many people reap wholesome, educational, spiritual and aesthetic values from outdoor collecting hobbies. Of course some collectors merely are "trophy hunters" who carry home everything they can, but there are

others who are stimulated to further study and original thinking by their experiences in the field.

Such a person is Horace Arment of Ontario, Oregon. An avid artifact hunter and layman researcher, recently he incorporated all the efforts of his many field trips and research into a little publication on Indian artifacts of the Upper Great Basin. In it he wrote: "In the Eternal Order of Things, we are the interlopers . . . Will the work of our hands endure as long as his? I do not know—I only know that when, for the first time, I behold one of those beautiful points and reach down and reverently lift it from the dust, in spirit, I walk with him, that Stone Age Man, a few steps."

I am convinced that the great ma-

jority of rockhounds, artifact hunters and fossil collectors only need guidance to direct their interest and energy into constructive channels that will enrich their own lives and further scientific research. A considerable part of the excavation work done under the leadership of Dr. M. R. Harrington of the Southwest Museum at Gypsum Cave in southern Nevada, was by interested individuals who donated their labor, and in some instances, money as well, for the satisfaction they received in participating in this important scientific work.

Occasionally, a layman uncovers a clue that leads to the identification of a new fossil plant, animal or insect, or one which permits archeologists to write a new chapter in the story of

some ancient people. The late Frank Beckwith, who drew the attention of scientists to the great fossil deposits near Delta, Utah, had an ancient trilobite species named in his honor. Many reporters of archeological sites have had their names attached to their findings.

" . . . it would be virtually impossible to over-emphasize the role played by the conscientious amateur," declared Dr. W. W. Wasley, archeologist at the Arizona State Museum. "This is particularly true in the matter of reporting new finds and new sites. Most of our early man, or paleo-Indian sites of major importance have been brought to the attention of the professionals in just this way."

If we are to preserve our present freedoms in the outdoors, we must practice moderation in what we take home from collecting trips. We should become better acquainted with local institutions and museums, and their trained personnel should be invited to present club programs, and encouraged to become affiliated with the group. We should offer manpower, equipment and unlimited enthusiasm to further scientific exploration.

Report new finds of a fossiliferous or archeological nature to institutions and museums so scientific values can be determined before they are destroyed. Teach members of your club or group to restrict the impulse to become "trophy hunters." Members, by vote or mutual consent, should limit the amount of material each is to take home from a field trip. Promiscuous gathering by even a portion of a large group can quickly denude an area. And dealers who persist in selling unlawfully - acquired relics or stones should be blacklisted by individuals and clubs.

Will your gemstone, artifact, mineral, fossil and other collections to an institution of your choice that has need for such material and will properly care for it. Seldom does the second generation in a family take the same pride and interest in a collection that the collector had. Too many fine collections are broken up, sold, delegated to the attic or hauled to the city dump when they could have continued to give appreciation, education and enjoyment to future generations in a museum or educational institution.

Unfortunately, the Southwest's increasing population will make this general problem more acute as time goes on. But, those who have no regard for the wonders of the earth can be taught such affection—and it is up to you and I to do the teaching, by our utterances and by our examples in the field.

THE *Desert* MAGAZINE CLOSE-UPS

"Desert Plants Grow in Our Garden" was written by 79-year-old Lena Gamble Bixler of Tucson, a retired Pennsylvania school teacher who came to the Southwest in 1938. Her teaching career includes 15 years as an instructor at Temple University. She is a regular contributor to educational journals, writing articles that are largely based on reminiscences, colored by happenings of today.

* * *

Painting—in oils and watercolors—and writing poetry are two of the many interests of Jean Page Killgore, author of "In His Memory, a New Town," the story of her father, John Page. Mrs. Killgore also is an enthusiastic mountain camper.

From her birthplace in Grand Junction, Colorado, she moved with her family to the Hoover Dam site in 1931 where a deep fondness for the desert developed. "An ideal existence," she writes, "would be to live on the desert nine months of the year, and spend the three summer months camping in the mountains."

Mrs. Killgore's husband is an electrical engineer in the employ of the Bureau of Reclamation in Denver. They have two daughters, Carolyn, 20, a student at the University of New Mexico, and Kathy, 15, who is in high school.

* * *

O. V. Deming, who wrote "The Antiquities Laws and You" in this month's *Desert*, is a wildlife management biologist in Oregon. Since college, most of his life has been spent

in the outdoors, where he has had the opportunity to study desert game animals and devise methods for the perpetuation and management of dwindling wildlife resources. Along the way he also developed interests in gem stones, fossils, artifacts, driftwood, geology and photography.

"During my work in the desert it has become second nature to carry extra gasoline, water, oil and food to aid stranded visitors who did not realize the dangers of running out of the basic essentials in a land far removed from supermarkets and service stations," Deming wrote. "My article on the antiquities laws is just another effort to help folks stay out of trouble when they heed the primitive urge to get outdoors."

* * *

Selling a copy of the old San Bernardino, California, *Index to Death Valley Scotty* (who paid a silver dollar for it) was Don Ashbaugh's first newspaper job. A resident of Las Vegas, Nevada, he is author of the waterhole feature, "Crystal Springs," in this issue.

As a feature writer and reporter, Ashbaugh spent many years in Los Angeles. After being discharged from the service in 1945 he stopped off in Las Vegas and quickly decided to "stay here instead of returning to the metropolitan madhouse." He is Sunday Editor of the *Review-Journal* in that city.

* * *

Classifying himself as a "ghost town snooper and desert rat," E. C. Thoroman, author of "Lost Gold of the Four Peaks" in this month's *Desert*, has been a resident of Arizona for the past 10 years. During this time he has tramped over much of the state's mountainous country. Thoroman is director of testing and placement for the Phoenix College.

Lost Gold of the Four Peaks...

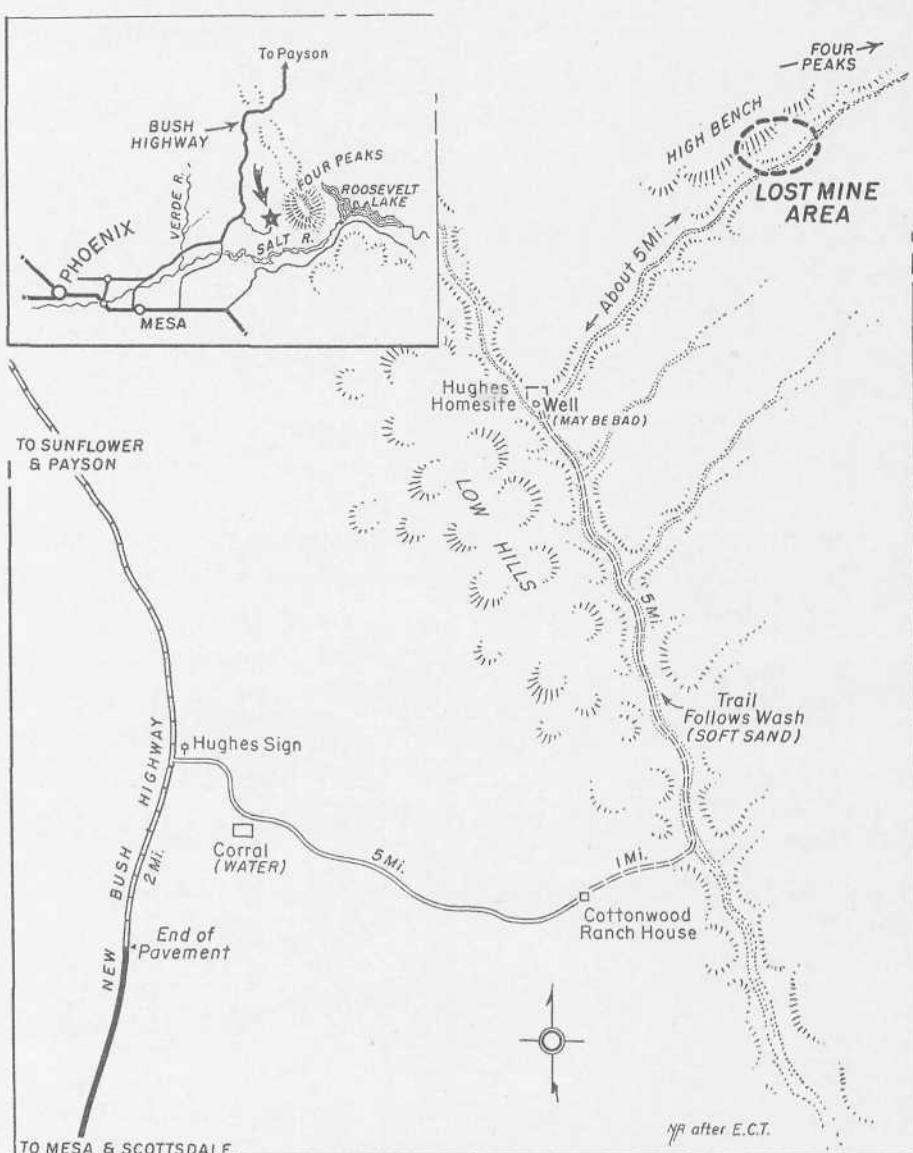
The 86-year-old Apache Indian had taken gold from the mine whose white discoverers had been killed by his father. Perhaps the years had been unkind to his memory, perhaps the gold was merely an old man's dream. But, possibly the gold exists—and here are the known clues to Iretaba's treasure lying in the shadow of the rugged Four Peaks in central Arizona.

By E. C. THOROMAN
Map by Norton Allen

SEVERAL YEARS before his death in 1952, Colby Thomas, a mining engineer who had operated successfully in Arizona and Old Mexico, came into possession of a fascinating story of a lost gold mine near Four Peaks, a rough and rugged area in central Arizona.

An old Apache Indian, Iretaba, known also as Puncher Bob because he had worked as a cow and horse wrangler in the Four Peaks area most of his life, told Thomas of the fantastic gold strike made many years before, several miles to the east of the Hughes Well. In his youth, Iretaba had made a stolen trip to the lode and took out a small quantity of the gold, but now, because of his blindness and great age (he was 86), he would be unable to make another visit. His friendship for Thomas and the many favors which Thomas had given him prompted Bob to divulge the long-kept secret.

Colby Thomas was then past 80 years of age himself, but mining was in his blood, and he wanted to make the try. The instructions given by Puncher Bob were explicit: "Go by way of the Bush Highway to the sign that marks the turnoff to Hughes Ranch, then proceed to the Hughes Well. At this point there is a junction of two washes. Take the southerly wash about five miles east. Here there will be evidence of an old digging in



the side of the wash. Climb out of the wash onto the bench, and seek the biggest palo verde tree in sight. At the base of the tree measure 20 feet southwest; the opening of the mine is at that point."

Despite his age, Thomas made the trip alone—stopping in Mesa to recheck his information with Puncher Bob, who was living there with a son. The trip over the then existing dirt roads took the rest of that day, and that night Thomas camped by the well at the end of the road. From here the rest of the journey was by foot. Next morning he traversed the wash as directed, and picked up some unusually rich gold float. By noon he had found the old diggings at the edge of the wash and had made his way onto the bench.

The afternoon was a nightmare. The country was rugged, covered with man-

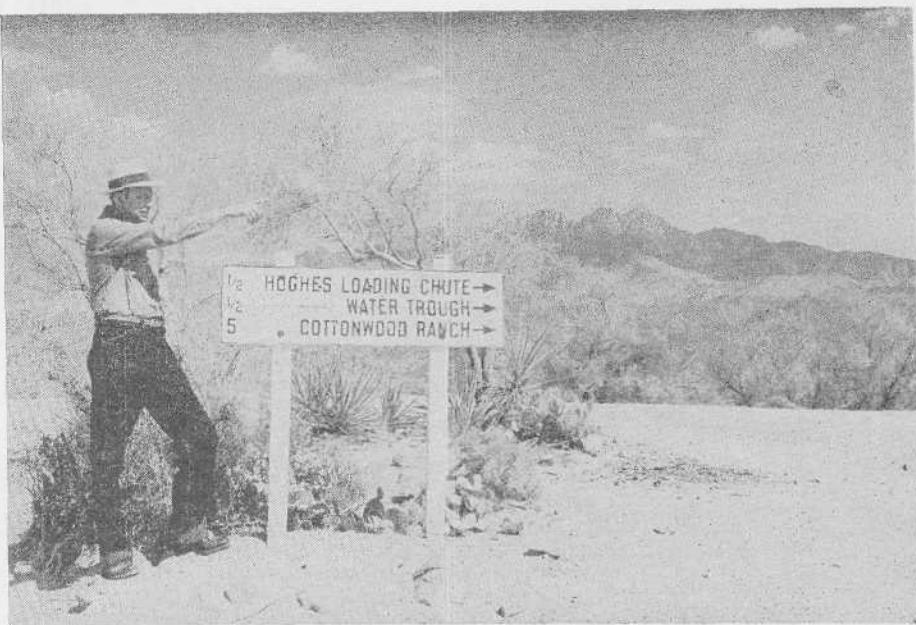
zanita, leached with arsenic and infested with rattlesnakes. Palo verde trees? Yes, plenty of them, but none that stood out larger than the rest. Furthermore, he was unable to find more of the rich float which he earlier had picked up in the streambed. As the sun dropped low, he climbed higher and worked over the next bench, but to no avail. Short on water and exhausted by his efforts, he made his way back to the car and camped for the night.

Next day he tried again, but with no better success. Could he be above or below the place in the wash? What was his mistake? By now his supplies and stamina were seriously depleted.

Believing that he had misunderstood the instructions, Thomas drove back to Mesa.

"No, you were on the right bench,"





Ed Abbott points down the road to the Cottonwood Ranch, beyond which the trail enters a sandy wash that runs behind the low hills in front of Four Peaks in background. Wash leads directly to the old Hughes homesite.

Puncher Bob told him. Then he gave Thomas the complete background on the mine:

"Nearly 100 years ago," Bob began, "two white men came in from Tucson. They prospected in the edge of the

Four Peaks country. This was before I was born. They had very good luck. They found a small blowout hole in the bench lined with rotten quartz loaded with gold.

"For several days the miners worked

Hard Rock Shorty of Death Valley



"That's a purty fair piece o' petrified wood fer a newcomer," Hard Rock Shorty admitted grudgingly. "Shows the grain an' them knot holes is kinda natcheral. Too bad it's busted up so small. 'Tain't more'n two feet long, is it?"

"What do you mean, 'small,'" protested the rockhound. "Do you expect me to find a whole tree? This piece fills my gatherin' bag plumb full."

"Now take it easy," Hard Rock comforted him. "I said it wuz a nice piece — fer a beginner. 'Course I've found whole limbs." He puffed at his pipe, a reminiscent gleam in his eyes.

"Best piece I ever found wuz a limb still fastened t' the crotch o' the tree where it growed, all petrified an' with petrified leaves. In the crotch wuz a petrified bird's nest full o' petrified eggs. You

wouldn't hardly believe that unless you seen it, would you?

"I know'd I had something the scientist fellers would go crazy about. But I didn't say nothin' 'cause I calculated to do a little sciencin' on my own. I figgered them eggs wuz plumb dried out an' dehydrated. So I soaked 'em in water and then set 'em under one o' Pisgah Bill's ol' hens.

"That hen wuz mighty faithful. Set three weeks and then began lookin' surprised. Three weeks more an' she looked downright worried. Well, after a few more weeks o' incubatin' I heerd them eggs a poppin' an' the ol' hen come a runnin' an' a squawkin' at me.

"Yes siree, them durned petrified eggs'd hatched all right, but them pore baby birds wuz all born petrified."

their strike, going down into the hole and picking out the rich quartz from the sides. Fearful of the Apaches or that other miners would find their rich claim, they loaded their burros with as much carefully selected ore as they dared, and prepared to depart. Scrupulously they collected all their tailings and threw them down into the wash. Then they placed brush over the mouth of the blowout. Richly laden, they returned to Tucson.

"However, their operation had not gone unnoticed by the Apaches, who resented the intrusion. When the miners returned several months later, they were slain. Then the Apaches took steps to insure that the rich strike would never again be found. They sealed the entrance to the shallow tunnel with a large rock, and to cover their traces, built a fire, leaving what appeared to be the ashes of a burned out campfire."

Bob, whose father had been a party to the slaying of the two miners, was told of the incident in his childhood. In the daring of his youth, he sneaked over to the mine, propped up the rock and broke off some pieces of the rich gold-laden quartz. For this he had been punished by the tribe, which by this time was located on the San Carlos Reservation.

Although he had punched cattle in the area for many years, Bob had never returned. Now, the tribe was gone, he was old and sick, and he needed the gold. Would Thomas try again?

Colby Thomas fully intended to do so, but the strenuous search made him ill. After recovering several months later, he enlisted the aid of Ed Abbott, who successfully had worked the old Gunsight Mine, and had prospected with Thomas on other occasions.

Because of his frailty Thomas stayed at the well on the return visit. Abbott found no large palo verde nor did he find the flat stone that covered the entrance to the tunnel. What he did find was a newly marked claim and a new digging at the edge of the wash. That claim presented a complicating factor for it overlapped the area where the blowout was believed to be. Had Puncher Bob sought other help?

Back in Mesa another blow awaited them. Bob and his son had moved—address unknown. Thomas decided to wait it out, hoping the prospector would become discouraged and drop his claim. But time did not wait. In 1952, Colby Thomas died at 89 years of age.

He passed on without making his last big strike, but the flat rock still covers the entrance to the diggings, and the Four Peaks Gold Mine still is lost.

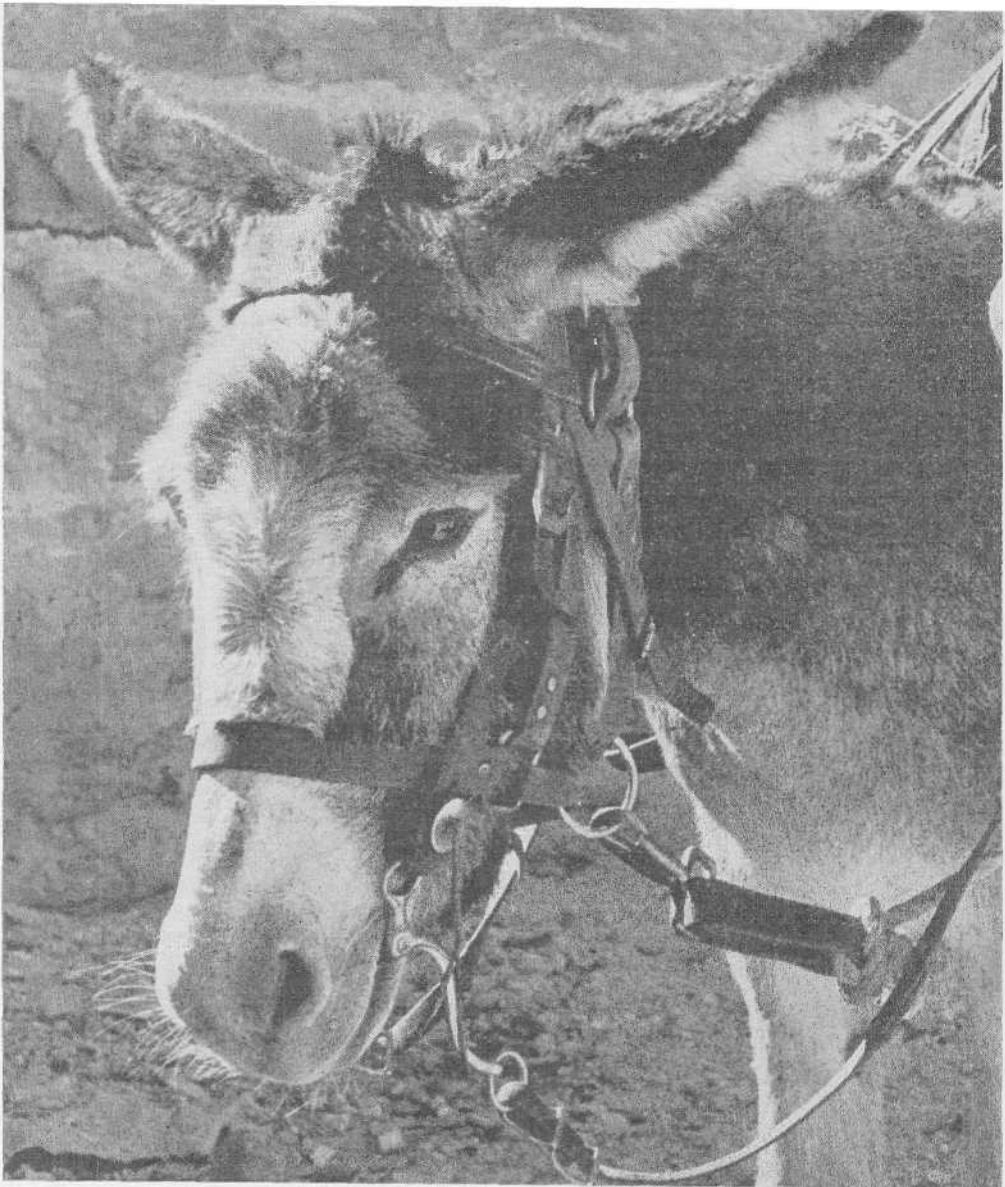
Beast of Burden . . .

First prize winning photographer L. D. Schooler of Blythe, California, made this camera study of a prospector's indispensable partner in the ghost city of Jerome, Arizona. Schooler's camera data: Rolleicord Camera set at f. 16, 1/100 second on Plus X film.

Pictures of the Month

Death Valley Dunes . . .

The photo contest judges awarded I. Haines of Los Angeles second prize for this inspiring picture of sand dunes near Stove Pipe Wells in Death Valley. Haines used a 4x5 camera set at f. 16, 1/10 second; infrared film.



LIFE ON THE DESERT

Desert Plants Grow In Our Garden . . .

By LENA GAMBLE BIXLER

THE COMFORTABLE desert home we purchased in Tucson was located on top of a hill crusted over with caliche, the calcium carbonate-impregnated soil that is so prevalent in arid regions and especially Arizona.

When I lamented about the bareness of the yard, the renter living in the house, who was not happy about having to move, cynically remarked: "People come here to have the desert, so let them have the desert!"

That first year I contented myself with a large tub of water lilies. I also struggled with a small plot of Bermuda grass, only to see the fertilizer, its life blood, washed away during a cloudburst. The little dark streams, with the whole recipe for making things grow, tumbled out of the yard to join larger streams and soon my lawn was gone. But, the bright little water lilies cheered me, although I sometimes imagined they were mocking me for my futile efforts at growing grass in such sterile soil.

The following year, my husband suggested that we have a professional gardener landscape our grounds. We called one in to make an estimate of the cost for such a job.

First, we were informed, a retaining wall would be imperative since our lot was on an incline. Estimated cost: \$400. To dig up and haul away the top layer of caliche would cost \$100 (at this my husband remarked that landscaping on the desert apparently meant "landscaping.") The cost of replacing the caliche with top soil was calculated at \$300. In addition, there would be the cost of fertilizer to condition the soil. Then, the gardener told us, while the ground was being dug up, it would be economical to install a sprinkler system which he thought would cost around \$300.

Each shrub and tree we used in our landscape would require the digging of a deep pit in which peat moss, fertilizer and top soil in correct proportions would have to be inserted. And, of course, there would be a consider-

able outlay for seeds, plants, shrubs and trees.

My husband studied the estimate and shook his head. "Not this year, my dear," he said to me.

The words "people come here for the desert, so let them have the desert" flashed through my mind. I decided to use desert plants on our lot.

The next day I began paying closer attention to how Nature landscaped the desert. Mesquite bushes and small palo verde trees were thriving in the sandy soil near our home. I saw that they were quite decorative in spite of their thorns.

Not violating federal or state laws by removing vegetation we needed from public lands, we went to friends' ranches for cacti and other plants. During the next few weeks we eagerly dug, hauled and transplanted them. Soon we learned that despite their hardiness, these plants are not easy to transplant for many of them pouted and died. But, "the leaves of hope never wither," so we replaced them again and again until our project was completed.

Today a fence of whip-branched ocotillos, planted close together along the rear of the lot with three tamarisk trees, makes a beautiful background for our home, especially when the tips of the ocotillo branches are covered with red blossoms. Mesquites and spineless cacti outline another side of the lot. After 10 years of careful watering, one of the mesquites has grown into a beautiful and useful shade tree. Of course, it needed much pruning to check its uncivilized way of crowding out other plantings.

A night blooming cereus vines over a side porch and has many blooms every year. Numerous visitors regularly come to our home to see this beautiful plant and to smell its delicate perfume when the white blossoms unfold during the night.

Young saguaro cacti, growing less than an inch each year, stand close to the house. We planted them with the hope that they would live for 300 years on this hilltop. Verbena adds purple coloring to the yard wherever

Lena Bixler and her husband found that there are many advantages in using native plants for home landscaping on the desert—economy, ease of upkeep, wide variety of interesting plants to choose from, and perhaps the most important: the harmony and charm derived from surrounding a Southwestern home with Southwestern flora.

it grows, and we have found that with a little encouragement, it can be made to spring up almost anywhere. In each corner of a stone fence along the front of the property where passers-by can admire them, grow two century plants.

Five palo verde trees are a source of joy the year around, especially when the green branches are filled with yellow blossoms. Yucca—Spanish bayonets—stand guard on both sides of the garage door. On the sunny west side of our lot grow our ever increasing collection of rare cactus specimens. And now that all these native plants are helping to hold the soil from washing down the hillside, we are having a degree of success with Bermuda grass!

All agree that our desert landscaping is artistic and pleasing to the eye. It has been a very satisfying project—one that has given us much pleasure. We are glad that we "came to the desert—and have the desert."

FATE OF U.S. INDIANS EXPLAINED TO FRENCH

The current issue of *Informations et Documents*, a French language review published by the U. S. Embassy in Paris, is designed to set the record straight in regard to the fate of the American Indians.

The embassy regularly receives letters from Frenchmen who say the Americans exterminated the Indians and thus have no right to criticize France for its fight against the Algerian rebels.

The review points out that the American Indian population at the time of Columbus was an estimated 846,000. By the middle of the 19th Century it had dropped to 300,000 as a result of tribal wars, drouth, disease and migrations to Mexico and Canada. Today, the Indian population is over 400,000, apart from those living off the reservations.—*New Mexican*

ON DESERT TRAILS WITH A NATURALIST -- XLIII



Two antelope jackrabbits on right and a desert jackrabbit on left.

Long-Eared Denizens of the Desert . . .

The prolonged Southwestern drouth has greatly reduced the number of rabbits and hares in this area, but naturalists know that it is only a matter of time before they are again numerous in the open desert country. Familiar to all who are acquainted with the Southwest, these meek creatures depend upon defensive coloration, speed and keen senses—especially hearing for which they are so well equipped—to survive.

By EDMUND C. JAEGER, D.Sc.
Curator of Plants
Riverside Municipal Museum
Drawings by Morris Van Dame

THE PANAMINT Indians who spent their winter and spring months around the waterholes and mesquite thickets on the barren floor of Death Valley, subsisted almost entirely throughout this period on food gathered during the preceding autumn. This fare consisted of insects, lizards, plant greens, the seeds of wild rice, mesquite beans and pinyon nuts gathered in the Grapevine Mountains. Autumn also was the time of the com-

munal rabbit drives and antelope hunts.

The rabbit drives generally were held in October just after the pine-nut harvest. To find rabbits in numbers the men from all the neighboring habitations gathered together in mountainous brush-covered open areas such as Harrisburg Flats. Long two-foot-wide nets made from fibers of Indian hemp and milkweeds were stretched to form V-shaped barriers held upright by poles

and a few of the participants stationed themselves behind the nets. The others formed a circle, perhaps a mile in diameter, and then, "all yelling like coyotes and beating the brush," began closing in on the center, frightening and driving the rabbits before them at full speed into the nets where they became enmeshed. The luckless creatures were then clubbed to death by the men standing by the nets. At the close of each day everyone took part in a big feast. The period of such hunts lasted about a month.

The skins of the rabbits were cured, cut into strips and twisted, then sewn together to make soft warm blankets for winter use. The meat sometimes was dried, but most of it was eaten fresh-roasted. Rabbits thus formed an important temporary dietary element in the Indians' meager economy.

The animal most frequently driven into the nets was the familiar black-tailed gray-sided California jackrabbit;

in lesser numbers were the Black Hills cottontail.

The California jackrabbit and its numerous subspecies range over much

Desert Quiz

plant life, minerals, Indian lore and literature of the Southwest. The answers to all these questions have appeared in past issues of *Desert Magazine*. Ten to 12 is a fair score. Thirteen to 15 is good. Sixteen to 18 is superior. Any score above 18 is a rare exception. Answers are on page 32.

- 1—The famous 20-mule team wagons in the early days of Death Valley mining hauled — Gypsum_____. Gold ore_____. Rock salt_____. Borax_____.
- 2—The name Harry Goulding is associated with—Guide service in Grand canyon_____. Mining in Goldfield_____. A trading post in Monument valley_____. Discovery of Rainbow bridge_____.
- 3—Salt River valley in Arizona is served by water from — Hoover dam_____. Elephant Butte dam_____. Coolidge dam_____. Roosevelt dam_____.
- 4—Chief Winnemucca was a—Paiute Indian_____. Apache Indian_____. Navajo Indian_____. Hualpai Indian_____.
- 5—Most conspicuous landmark on U. S. Highway 666 north of Gallup, New Mexico is — Morro rock_____. Shiprock_____. Elephant's Feet_____. Mexican Hat_____.
- 6—Panamint Mountains are visible from—Salt Lake City_____. Tucson, Arizona_____. Death Valley_____. Santa Fe, New Mexico_____.
- 7—Desert Indians formerly sought the Chuckawalla lizard—As an omen of good luck_____. To make moccasins of its hide_____. To secure venom for poison arrows_____. As food_____.
- 8—Cactus fruit most popular with the Papago Indians for food comes from the — Cholla_____. Organ Pipe cactus_____. Saguaro_____. Prickly Pear_____.
- 9—Purpose of Father Escalante's trek from Santa Fe in 1776 was to—Explore the Colorado River_____. Find a new route to Monterey, California_____. Christianize the Ute Indians_____. Found a mission at Great Salt Lake_____.
- 10—if a Hopi Indian gave you some *piki* he would expect you to—Eat it_____. Burn it as incense_____. Hang it over the door for good luck_____. Use it to charm snakes_____.
- 11—The “Mountain Men” of the early days in the Southwest primarily were—Goldseekers_____. Indian traders_____. Trappers_____. Army scouts_____.
- 12—Tuzigoot national monument Indian dwellings were built by prehistoric—Cliff dwellers_____. Pit dwellers_____. Pueblo dwellers_____. Cave dwellers_____.
- 13—Smoki people hold their annual Snake dance at—Oraibi_____. Prescott_____. Flagstaff_____. Gallup_____.
14—Hardest rock in the following list is—Quartz_____. Corundum_____. Feldspar_____. Topaz_____.
- 15—Parker, Arizona, is entirely surrounded by the—Mojave Indian reservation_____. Yuma Indian reservation_____. Chemehuevi reservation_____. Colorado River Indian reservation_____.
- 16—The desert screwbean grows on—Ironwood trees_____. Mesquite_____. Smoke trees_____. Palo Verde_____.
- 17—Jojoba is the name of—A desert plant_____. An Indian tribe_____. A Navajo chant_____. One of the desert rodents_____.
- 18—Arches national monument is located in — Arizona_____. New Mexico_____. Nevada_____. Utah_____.
- 19—The book *Desert Country* was written by—Edwin Corle_____. Oren Arnold_____. Edmund C. Jaeger_____. Charles Kelly_____.
- 20—The All-American canal was built to bring water to—Nogales, Arizona_____. El Paso, Texas_____. Imperial Valley, California_____. Gila River valley_____.

of the western United States from the plains of Nebraska, Kansas and Texas to the Pacific Coast, southward into Baja California and central and north-

eastern Mexico. In contrast to the white-sided antelope jackrabbits of southern Arizona and Mexico, its sides are gray and the ears are black-tipped.

The Black Hills cottontail long ago invaded the Panamint Mountains from the east. It is common over much of the sage-brush area of Nevada and Utah.

Each year as I travel over the bleak floor of Death Valley, I occasionally see the paler Arizona cottontail, a rabbit also found in low arid parts of extreme southern Nevada, California, northeastern Baja California and nearly all of Arizona. Sometimes it ranges upward into the open sunny desert mountain forests of junipers and pinyons and there it lives as happy comrade to rock squirrels, dove and quail; though not with much security, for bobcats, coyotes, rattlesnakes and the guns of human hunters are present there.

Although possessing many features in common, hares (often erroneously called jackrabbits) and true cottontail rabbits are very dissimilar animals in a number of important respects, especially in regard to the state of the young.

The young of the hare, well developed at birth, are very beautiful little creatures with thick and very soft furry coats and bright wide-open eyes. The mother hares make no attempt to construct a nest—indeed no preparation of any kind is made for her little family. A form—merely a sitting place in the bush—has to suffice as both home and nursery for the leverets. There generally are four in number and they are quite lively from the very beginning; indeed they often hop about and even feed on tender herbs and grass within a few days after birth.

Not so with the rabbits. Their young are quite immature and bare at birth, changing rather rapidly from pink to lead color. Only after several days do they grow their coats of fur. For the first few days their eyes are not open and they are dependent on the mother for suckling and protection. The doe prepares the nursery underground, digging the tunnel herself or occupying one made by another rabbit or burrowing rodent. Moreover, she gathers mouthful after mouthful of grass to make a neat and cozy nest, often lining it with fur plucked from her sides. One I kept close watch on visited her babies only at night, and then only so they could feed at her breast. During the day she stayed nearby, watchful for enemies.

The most handsome of the jackrabbits is the enormous-eared and slender-legged antelope hare (called *el liebre* by the Mexicans) of the grassy plains of southwestern New Mexico, southern

Arizona, the tableland of Mexico and the arid coastal cactus-studded plains of Sonora, Sinaloa and northern Tepic. This creature's ability to "flash" its undercoat of white hair has earned for it the name antelope, which also exhibits this phenomenon.

One evening in the tree deserts of west-central Sonora, one of these long-legged jacks darted with astonishing fleetness right through our camp, flashing the white of its otherwise black tail as it passed. Later I had the exciting opportunity to see the peculiar phenomenon of "side flashing." While walking along a grass-bordered cattle track, I flushed from its form one of these hares. He seemed not particularly alarmed and moved off at moderate speed at an angle. Of a sudden we saw a large flash of white from the side and rump. A few yards on and we saw it again. This sudden showing of white is accomplished by special muscles which draw the white area of the sides between shoulder and rump "up like a curtain" and at the same time shift the buffy or brown area of the back forward and together, to form only a rather inconspicuous narrow band.

When traveling in zig-zag patterns, these rabbits sometimes draw up the white area to give a flash first on one side and then on the other. It is a good example of what animal behaviorists call directive coloration. Certainly it is a ready means of calling to themselves the attention of other hares during the rutting period; it may warn other hares which are nearby to be on the alert; it also may serve as a means of confusing a predatory enemy.

One of the greatest enemies of these speedy hares is the caracara, a large white-necked black-capped hawklike bird of prey. They are swift and bold hunters and strike with cruel beak and talons. The hare's only safety lies in its great speed and in its ability to dash quickly into thick brush. The less alert, less suspicious young are especially vulnerable to the attack of caracaras which hunt on the ground as well as from the air.

The ears of the antelope hare are amazingly long, often up to eight inches or one-third the length of the animal's body. There is no black patch on the back of the ears at the tip as shown by the California or desert jackrabbit. Such long sound-gathering appendages are necessary in a land where enemies are many and life may depend on early detection of a predator's approach.

When white-sided hares are sitting still or slowly moving about in the open, these enormous ears are continually shifted about to catch the slightest sound. It is then that they

show up to best advantage. Most beautiful they appear when they are fully erect and we see the sun shining through the pink translucent thin-cartilaged pinnae. As a general rule the ears are flattened back against the neck and shoulders only when the animal is in full retreat or when it is feeding under low twiggy brush.

Next time you are walking on the desert and find a rabbit skull, examine the teeth. The back chewing teeth are widely separated by a considerable gap from the long curving cutting teeth in front. To give extra strength to the cutting or incisor teeth of the upper jaw Nature has provided a set of shorter "bracer teeth" which lie directly

mer rains turn the desert green, rabbits flock in from all directions to feed on the new crop of succulent food. Where a stream such as the Mojave or Gila river flows through desert plains, we see the jackrabbits' paths heading in from all directions to the water and the adjacent green plants. Some of these rabbit trails lead from one to two miles back into the brushland and give evidence that these animals do not stay only in places where there is green food, but by preference spend part of their time out in the dry brush areas. There they hide in their forms by day, and in the evening move into the better feeding grounds.

The recent drouth has had a marked



Arizona cottontail.

behind the functional pair. Only the mountain dwelling conies and rabbits and hares possess such a double set of upper incisors and for this reason these animals have been given the special name "duplicidents" (duplicate toothed ones).

The curved chisel-like cutting teeth are sharp, and, worked by powerful lower jaw muscles, can clip even very hard-wooded twigs such as those of the creosote bush. Why hares should cut creosote branchlets is always a mystery to me since it is very evident they do not eat them. Often the bushes are trimmed up as high as the animals can reach while standing upright on their haunches. When jackrabbits can get at the spiny tree yucca leaves they will cut these too, severing them near the base in considerable quantities. It has been suggested that this helps to sharpen the cutting teeth and keep the jaw muscles always strong.

These lagomorphs like green food best, but get along perfectly well on dry provender. When localized sum-

effect in diminishing the desert's rabbit population. This spring I took a 1200-mile trip through the mountains and valleys of the Death Valley area. Neither while driving nor while walking did I see more than two jackrabbits or cottontails. I fared as poorly on a 600-mile trip into Baja California. The number of rabbits often fluctuates in 10 to 12 year cycles corresponding roughly to the cycles of maximum sun spots. Just what the relation is, I do not know.

The scarcity of rabbits in turn affects the predators such as coyotes and bobcats which largely feed upon them. As rabbits become scarce, these carnivores turn more and more to feeding on the smaller rodents and thus come into competition with the rodent-eating foxes and snakes, making the times harder for all of them. It is all a very good example of the great dependence one group of animals has on another, and how even the slightest upset in the balance of Nature can have wide reaching effects on the lives of many of the smaller creatures.

Ninth Death Valley Encampment November 8-11

Program details of the ninth annual Death Valley Encampment were disclosed by B. Paul Gruendyke and Norman S. Johnson, co-chairmen of the event. Dates for this year's outing in Death Valley National Monument are November 8 to 11.

Here is the program:

FRIDAY, NOVEMBER 8

2 p.m.—Dedication of Wade Monument on the Camp Irwin Road at junction of State Highway 127 near Salt Springs, 30 miles north of Baker.

7:30 p.m.—Campfire at the Sand Dunes with a community sing and "Death Valley Tales" program presented by Mrs. George Palmer Putnam and John D. Henderson.

9:15 p.m.—Square Dancing at Stove Pipe Wells.

SATURDAY, NOVEMBER 9

8 a.m.—Artists' Breakfast at Furnace Creek Golf Course. Price \$1.50.

10:30 a.m.—Conducted tour of the valley, starting at Government Center.

12 noon—Chuck Wagon Luncheon at Stove Pipe Wells Hotel. Price \$1.50.

2 p.m.—Burro Flapjack Sweepstakes at Stove Pipe Wells.

7:30 p.m.—Campfire at Texas Spring, featuring community sing; songs by North American Chorus; State

Senator Charles Brown speaking on, "A Museum for Death Valley;" and "Death Valley Tales" by Ardis M. Walker.

9:30 p.m.—Square Dancing at Furnace Creek Ranch.

SUNDAY, NOVEMBER 10

7 a.m.—Protestant sunrise service at Desolation Canyon; Catholic Mass at Furnace Creek Inn Garden.

8:30 a.m.—Photographers' Breakfast at Furnace Creek Golf Course. Price \$1.50.

11 a.m.—Conducted tour of the valley, starting at Government Center.

2 p.m.—Tour of Scotty's Castle. Admission \$1.10 adults, 50c children.

4 p.m.—Painting Demonstration at Furnace Creek Inn by John W. Hilton.

7:30 p.m.—Evening Assembly at former site of Furnace Creek Ranch Airplane Hangar. Kodachrome show; community sing.

9:15 p.m.—Square Dancing at Furnace Creek Ranch.

MONDAY, NOVEMBER 11

8 a.m.—Authors' Breakfast at Furnace Creek Golf Course. Price \$1.50.

10:30 a.m.—Conducted tour of the valley, starting at Government Center.

10:45 a.m.—Veterans' Day Memorial Service at Furnace Creek Inn Garden.

Special exhibits scheduled at Furnace Creek Ranch and Inn include historical firearms and other weapons; Indian relics and artifacts; gems and minerals; and art. The exhibits will be open during all four days of the encampment except the art exhibit, which begins on Saturday, Nov. 9.

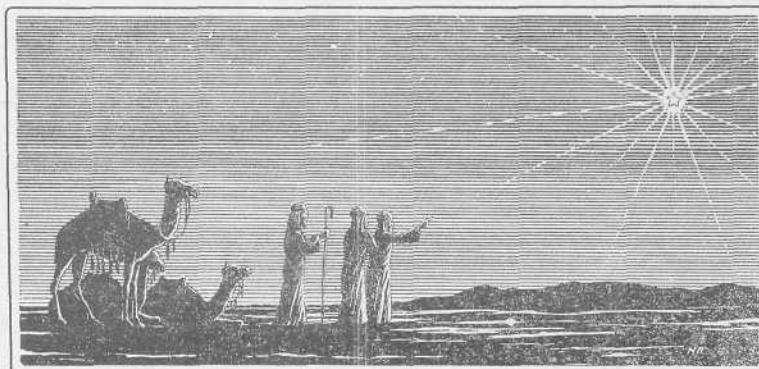
The '49ers request that persons wishing to camp out bring their own wood. Campers and trailerites should bring all other needed supplies, although water is available. Because of the cool evenings, ample bedding is recommended.

Hotel reservations are limited and should be made early. Rooms are available at Furnace Creek Inn, Ranch and Amargosa Hotel. Phone or write Fred Harvey Company, 530 W. 6th Street, Los Angeles 14. Phone TRinity 8048. For Stove Pipe Wells Hotel reservations, write Stove Pipe Wells Hotel, Death Valley, Calif., or phone or write to Stove Pipe Wells Hotel, 108 W. 6th St., Los Angeles 14, VAnkye 2937. For Scotty's Castle reservations, write or phone to main office, 1462 North Stanley Avenue, Hollywood 46, HOLlywood 5-1223.

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LETTERS

Tonopah Was a Silver Camp . . .
San Diego, California

Desert:

Question 12 in the September Quiz: "In the boom days a half century ago the principal mineral taken from the mines at Tonopah was—" should have been answered "silver" instead of "gold." I was personally acquainted with Jim Butler, the discoverer of Tonopah.

L. C. DeSELM

Dear Mr. DeSelma: You are right and our apologies to "the greatest silver camp in the silver state." —RH

• • •

Sculptor Resuming Work . . .

Yucca Valley, California

Desert:

To add to your reports on Desert Christ Park, the statues of Biblical figures which Sculptor Antone Martin removed from their original sites were taken across the street to a property which is non-controversial. Virtually no damage was done to them.

An important part of the original work is on this adjoining area and Martin is busily recreating the statuary sets with new features to be added. Nearing completion is the scene depicting Mary and Martha, with a colonnade 40 feet long in modified Greccian style in front of a walled patio. Martin has received offers to create a mountainside "World Peace Shrine" near Tucson, Arizona, but refuses to quit his project here.

HOWARD D. CLARK

• • •

Search for Artifacts . . .

Framingham, Massachusetts

Desert:

I plan soon to visit the West and I am interested in places where Indian artifacts can be collected.

I would appreciate receiving from you information pertaining to these locations along with issues of the magazine that would be of assistance.

NORMAN STARK

Dear Mr. Stark: Because it is a violation of federal and state laws in most areas of the West to collect artifacts, we have been very hesitant regarding the publishing of sites where they are found. In this issue appears an article which explains the antiquities laws and the need for all of us to cooperate in the preservation of the physical evidences of early inhabitants of this continent so that they will not be lost to scientific investigation.—R.H.

Indians Were Conservationists . . .

Portland, Oregon

Desert:

In the September *Desert*, page 21, I read: "Have you ever wondered how abundant our wildlife might be, had there been a commandment among the 10 to guide us in our dealings with wild birds and mammals?"

The northwestern Indians had seven commandments, most based on conservation. Without conservation, these first people could never have survived.

No accounts can be found of Indians exterminating any of the Great Spirit's creations—they only tried to exterminate the human invaders of their land.

The white man slaughtered the buffalo and exterminated the passenger pigeon, but the Indians never departed from their greatest conservation commandment: "Do not destroy, my brothers, use only what is needed. If you take one, let two go. Remember—you must not only account to the Great Maker, but to those who are yet un-born."

I also would like to comment on the editorial reference in the September issue to petroglyphs and pictographs. In my 70 years, I have talked to many

fellow Indians on this subject. The canyon wall etchings left by the Ancients are not mysteries. Each represents something specific: a warning; a symbol warding off evil spirits; a symbol of deity; stories of the hunt; everyday incidents; a record of the animals which inhabit the area; a dream interpretation; etc. Each artist told the story in his own way and according to his idea of how it should be told.

JIMMIE JAMES

• • •

Praise for Poets . . .

Cucamonga, California

Desert:

I think I have never seen a letter of appreciation for the efforts of the contributors to the poetry page. Surely, some comment is due them, especially when their verse rises above the horizon of mere rime.

I enjoyed September's "Debt to a Burro" for its poignant simplicity.

To write good poetry is hard work, even if you have the "know how," and are regarded as a poet. The tyro must be willing to really sweat at the job.

Let's have more good verse on this page.

LEIGHTON ZEBOLD

Picture-of-the-Month Contest . . .

Picture possibilities on the Desert Southwest are endless. From insects to Indians, mockingbirds to mountains, the sunfilled desert studio offers a new photographic subject at every turn in the trail. You can add to the enjoyment of your camera hobby by sharing with other members of the *Desert Magazine* family the best of the pictures you take on the desert. Two cash prizes are given each month. The contest is easy to enter and is open to both amateur and professional photographers.

Entries for the November contest must be sent to the *Desert Magazine* office, Palm Desert, California, postmarked not later than November 18. Winning prints will appear in the January issue. Pictures which arrive too late for one contest are held over for the next month. First prize is \$10; second prize, \$5. For non-winning pictures accepted for publication \$3 each will be paid.

HERE ARE THE RULES

- 1—Prints must be black and white, 5x7 or larger, on glossy paper.
- 2—Each photograph submitted should be fully labeled as to subject, time and place. Also technical data: camera, shutter speed, hour of day, etc.
- 3—PRINTS WILL BE RETURNED WHEN RETURN POSTAGE IS ENCLOSED.
- 4—Entries must be in the *Desert Magazine* office by the 20th of the contest month.
- 5—Contests are open to both amateur and professional photographers. *Desert Magazine* requires first publication rights only of prize winning pictures.
- 6—Time and place of photograph are immaterial, except that it must be from the desert Southwest.
- 7—Judges will be selected from *Desert*'s editorial staff, and awards will be made immediately after the close of the contest each month.

Address All Entries to Photo Editor

The Desert Magazine

PALM DESERT, CALIFORNIA

Butcherbird a Villain . . .

San Clemente, California

Desert:

I was reading aloud the article on butcherbirds by Dr. Jaeger in the September issue, and when I came to the word "handsome" I heard a protest from my usually sweet-tempered wife. She took the magazine from me and, verifying my reading, threw it across the room.

Our home for many years was on the Mojave Desert and my wife's dearest pet was Petey, a bright little canary. It was her custom when our house was stuffy to hang Petey's cage on our kitchen porch to give him some fresh air. Coming home one day I found my grief stricken wife in the yard with her hands over her face. She tearfully pointed to the cage and there I found Petey, decapitated.

Suspecting, but not certain, that the butcherbird surveying the proceedings was the guilty party, the next day I placed another canary in Petey's cage and hid behind a tree.

Soon the butcherbird swooped down and started his act. This wolf-in-feathers began to chirp prettily, dance up and down and flutter his wings. I knew all this was to entice the canary to the edge of the cage, so I chased the butcherbird away.

The shrike may be a "handsome aristocratic fellow" to naturalist Jaeger, but to Veva Marie, butcherbirds—one and all—are a black-browed bunch of villainous stinkers. And for good reason.

FRANK B. RUTLEDGE

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THE *Desert* MAGAZINE
PALM DESERT, CALIFORNIA

Here and There on the Desert . . .

ARIZONA

Parker Land Deal Jeopardized . . .

PARKER—The Bureau of Indian Affairs has given Colorado River Enterprises a second time extension in which to make good a \$40,000 check which bounced. The check was for the leasehold on the proposed town-site planned as part of the huge \$30,000,000 agricultural development of the Colorado River Indian lands. Besides the check, the concern must put up a \$5,000,000 performance bond if it is to receive the lease on the 67,000 acres of rich river land. No time limit was placed on the second extension period which began September 14.

* * *

Tucson Water Shortage Seen . . .

TUCSON—The University of Arizona issued a report based on a 10-year study of Tucson's water supply which showed the city's underground water table is dropping at the rate of five feet per year. As the city grows larger, the depletion is expected to become more rapid. "If the city continues to grow at the present rate, some water will have to be diverted from agricultural use to meet future municipal needs, or new sources must be found," the report concluded.—*Phoenix Gazette*

* * *

Indians Ban Taverns . . .

LEHI—Members of the Pima-Mari-copa communities on the Salt River and Lehi reservations voted 91-28 against issuing a permit for a tavern to be operated on reservation land by a non-Indian.—*Phoenix Gazette*

* * *

U.S. Pays for Organ Pipe Land . . .

QUITOBAQUITO — Jim Orosco (*Desert*, Sept. '57) has received \$13,000 from the U. S. Government for 160 acres of deeded land and range rights equivalent to a township of land which he owned and which the government took for public use as part of the Organ Pipe National Monument. Orosco is a Papago Indian.—*Phoenix Gazette*

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Colorado Flow Nears Record . . .

LEES FERRY—Water flow down the Colorado River at Lees Ferry this year will be one of the largest on record, the Bureau of Reclamation predicted. Flow to the end of summer was enough to fill downstream Lake Mead almost to capacity. In April of this year the lake was at a record low. As of August 22, 15,600,000 acre feet of water flowed down the river during the 1957 water year. Largest recorded stream flow came in 1917 when 21,900,000 acre feet went down the river.—*Vernal Express*

Boat Control Problem Created . . .

PHOENIX — Inland Arizona lakes are witnessing a boom in the boating sport, and one of the by-products of this activity has been congestion on the lakes. An increase in water skiing, joy-riding and racing has caused authorities to institute control measures and a state boat law is being discussed by affected groups and state and federal governmental agencies. At present, only control is being exercised by volunteer members of the sheriff's water posses who reportedly are not receiving much cooperation from the boat owners.—Dick Lee in the *Phoenix Gazette*

Equal Status for Indians Seen . . .

WINSLOW—Indian Commissioner Glenn L. Emmons told Winslow area residents that in a comparatively few years Indians will achieve full and equal status with their white neighbors. The day is not far distant when Indians trained in the various trades and professions will be taking their places side-by-side with all other citizens, he said. Within the coming 20 months, communities near Indian reservations can look for a number of Indian families to become residents under the Bureau's program of attempting to induce various industries employing Indians into these areas. He complimented northern Arizona communities for the progress they have made in taking Indian children into their schools.—*Holbrook Tribune*

* * *

PHOENIX — W. Taylor Marshall (*Desert*, May, '56), director of the Desert Botanical Garden and world authority on cacti, passed away in late August. He was 71.—*Phoenix Gazette*

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New Name for Glen Dam? . . .

PAGE — Rep. John J. Rhodes of Arizona has proposed that the new dam under construction in Glen Canyon be called Eisenhower Dam in keeping with the Southwest tradition of naming major dams after presidents, i.e. Hoover Dam, Roosevelt (Theodore) Dam and Coolidge Dam. But Platt Cline, editor of Flagstaff's *Arizona Daily Sun* takes issue with Rhodes. Cline says he proposed many months ago that the dam be named Powell Dam in honor of Major John Wesley Powell, the great American scientist who explored the Canyon of the Colorado more than 80 years ago.

—*Arizona News*

Dinosaur Trail Uncovered . . .

WALPI — A Hopi stone mason, Germaine Laloo, has uncovered 37 dinosaur tracks of three different sizes in a crescent-shaped strip 45-feet long and about 12-feet wide. The tracks were uncovered by a bulldozer when sand was scraped away from the base of a dune 12 miles out in the desert.

—*Phoenix Gazette*

CALIFORNIA

Paleontologists Study at Anza . . .

BORREGO SPRINGS—Paleontologist Dr. Theodore Downs of the Los Angeles County Museum in conducting research into the fossil remains of ancient animals at Anza-Borrego Desert State Park. Recently reported finds indicate a varied and unusual animal life once existed in the area. Among the fossils found were remains of long-limbed camels, early horses, antelope, ground sloth, and possibly musk ox, tapir and mastodon.

State Approves Joshua Park . . .

LANCASTER—The state has given final approval to the establishment of Joshua Tree State Park in Antelope Valley. The Division of Beaches and Parks received authorization to proceed with acquisition of land. Appraisal of more than 2000 acres in the Saddleback Butte area east of Lancaster and Palmdale has been completed.—*Palmdale Valley Press*

Colorado River Diverted . . .

BLYTHE—An 80-year struggle by Palo Verde Valley settlers to control the Colorado River was successfully realized in early September when the final rock fill was dumped into the river to close off the old channel. Entire flow of the river now passes through the spillway of the new diversion dam. Engineers said the work on the earthen dam will be continued until it reaches a height that will assure diversion of river water into the valley's irrigation system. After that is completed, the final job of removing the temporary rock weir will begin. Scheduled completion of the entire \$4,677,000 project, begun in February, 1956, is set for next February.—*Palo Verde Valley Times*

Dove Killing Resentment High . . .

MORONGO VALLEY—Residents of the Morongo Basin are discussing ways and means to prohibit the future hunting of doves in this area. The recent hunting season was especially destructive to the desert area's birdlife. Much evidence has been found that hunters are using the doves and other birds for target practice, leaving them to die in the field after they have been brought down.—*Desert Journal*

Development Planned at Oasis . . .

THOUSAND PALMS—Plans for a 2000-acre development in the Thousand Palms area recently were announced. To be known as the "Living Desert Wonderland," the project calls for a lodge-type hotel to house a thousand families, and a 36-hole golf course. Principals in the \$3,000,000 project are R. H. Distler of Desert Hot Springs and Paul Wilhelm, Thousand Palms.—*Desert Sentinel*

Litterbugs Face Fines, Jail . . .

SACRAMENTO—The Division of Highways reported that the state is spending \$600,000 yearly in an effort to clean up the thousands of tons of litter thrown along California highways. The California Highway Patrol warned that motorists face possible fines of \$50 and five-day jail sentences if convicted of littering the roadways.

Vandals Destroy Belle Camp . . .

JOSHUA TREE MONUMENT—Bench boards at Belle Camp recently were ripped from their cement foundations and burned in a campfire by vandals, the Park Service reported. The culprits also dug up two Joshua trees for firewood and left several others hacked and mutilated.—*Desert Journal*

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ANSWERS TO QUIZ

Questions are on page 26

- 1—Borax.
- 2—A trading post in Monument valley.
- 3—Roosevelt dam.
- 4—Paiute Indians.
- 5—Shiprock.
- 6—Death Valley.
- 7—As food.
- 8—Saguaro.
- 9—Find a new route to Monterey, California.
- 10—Eat it.
- 11—Trappers.
- 12—Pueblo dwellers.
- 13—Prescott.
- 14—Corundum.
- 15—Colorado River Indian reservation.
- 16—Mesquite.
- 17—A desert plant, often called goat nut.
- 18—Utah.
- 19—Edwin Corle.
- 20—Imperial Valley, California.

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LAND FOR SALE. Palmdale area near Acton. Owner offers picturesquely, secluded acreage for sale in 5-10-20 acre parcels. Gem stone district. Elevation 3200 feet. All year climate. \$400 per acre and up. Sir Kegian Gem Beds, P.O. Box 31, Acton, California.

DESERT PROPERTY For Sale: 3 extra nice Desert Homes only 10 min. from Palm Desert, midway between Palm Springs and Indio. \$5500—Brand new small house, never occupied, rough plumbing and electricity in, needs interior finish. Big concrete patios. Includes 5 acres. \$6500 — Beautifully furnished pumice-block cabin, electricity, handsome fireplace, beautiful view, lovely 5 acres; privacy. \$8500—Excellent living room, kitchen, bathroom, bedroom, lots of closet space. All decorated, tile floors, pumice block, large porches, ramada, small guest house. Electricity, water system, partly furnished — 3 acres. Terms. Acreage within a mile selling up to \$2,000 per acre. Write L. R. Waters, P. O. Box 582, or call 76-4161, Palm Desert, California.

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MISCELLANEOUS

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PAN GOLD: \$1 for 75 panning areas in 25 California counties. Geological formations, elevations, pertinent notes. Panning pans \$2.75, \$2.25. Leather nugget and dust pock \$1. Fred Mark, Box 801, Ojai, California.

Salton Sea Recedes Slightly . . .

SALTON SEA—Salton Sea's water surface elevation has dropped .15 of a foot in the last year, the Imperial Irrigation District announced. Level of the sea as of August 30 was 234.6 feet below sea level.—Calexico Chronicle

NEVADA

Organization for Basin Park . . .

LEHMAN CAVES—Recently established was the Great Basin Range National Park Association, whose purpose it will be to promote a national park in eastern Nevada in the Wheeler Peak, Matthes Glacier and Lehman Caves area. Elected as first president of the organization was Darwin Lambert, editor of the *Ely Daily Times*. Weldon F. Heald, Tucson, and newspaperwoman Athena Cook of Delta, Utah, were named vice presidents; and Glenn C. Osborne, Garrison, Utah, will serve as secretary-treasurer. Lambert invited all persons interested in the creation of the Nevada park to join the organization. Basic dues are \$3 a year and can be mailed to Lambert in care of the *Daily Times*.

No Hunting on Bomb Range . . .

TONOPAH—The Nevada Fish and Game Commission warned hunters that the entire Tonopah Bombing Range and the Atomic Energy Commission's nuclear test site are closed to all hunting. This includes portions of these areas lying in Nye, Lincoln and Clark counties.—*Tonopah Times-Bonanza*

Land Withdrawn for Park . . .

ICHTHYOSAUR STATE PARK—Proposed withdrawal of about 520 acres of public land in the Toiyabe National Forest from application of the mining laws, but not the mineral leasing laws, was announced by the Bureau of Land Management. Purpose of the withdrawal is to protect the fossilized ichthyosaur discoveries at Shoshone Mountain which are being explored by the Nevada State Park Commission and the University of California paleontology department. Meanwhile, the State Park Commission reiterated that no admission is charged to visit Ichthyosaur Park. Prison labor will be used to develop the site, the state also announced.

Indian Service Projects Listed . . .

CARSON CITY—The Bureau of Indian Affairs is expected to spend nearly \$2,000,000 in Nevada during the current fiscal year. Education and welfare services account for \$833,946, largest item in the budget. This includes an estimated \$221,000 to be paid to various Nevada school systems for education of Indian pupils. New school construction, irrigation systems, welfare and guidance services, relocation services, law and order, resources management and road construction and maintenance accounts for the balance of the budget.—*Reese River Reveille*

NEW MEXICO

Huge Indian Ruins Uncovered . . .

SANDOVAL COUNTY—What may prove to be the largest ancient Indian dwelling yet to be uncovered in New Mexico has been discovered near the site of a new highway project in Sandoval County, a mile and a half north of the Jemez Pueblo. Stewart Peckham of the Museum of New Mexico estimates that the two ruins in the area may contain as many as 150 to 180 rooms. Peckham believes the dwellings may date back as far as 1300 A.D.—*New Mexican*

Solar Heat Experiment . . .

LAS CRUCES—The Physical Science Laboratory will seek some of the answers to solar heating during a five-year experiment with a system being installed in the home of a physics department professor at New Mexico A & M College. The system will use water as a heat transfer liquid. Crucial test for the system will come this winter when it and a single fireplace will be the only heating facilities in the house. During the summer, the solar heating system may be used to cool the house by connecting it to a refrigeration system.—*Las Cruces Citizen*

Historical Zone Proposed . . .

SANTA FE—The city of Santa Fe is studying a plan whereby the architectural character of the city would be retained by zoning. A protest hearing on the "Historical Zone" matter is scheduled for October 31. — *New Mexican*

Plaza Made State Monument . . .

MESILLA—Historic Mesilla Plaza recently was dedicated as a New Mexico State Monument. Held in conjunction with the plaza ceremonies was the dedication of the Gadsden Museum in the home of Mrs. Elizabeth Fountain Armendariz.—*Las Cruces Citizen*

Recorded Duck Calls Banned . . .

SANTA FE—The Interior Department announced that it has classified as illegal the use of sound recordings in calling ducks and geese. Under the amended regulations, standard penalties for illegal taking of migratory game birds—six months in prison, a maximum \$500 fine, or both—will apply when they are taken with the aid of recordings. Canada recently ordered a similar prohibition on hunting in that country.—*New Mexican*



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Litterbug Campaign Drafted . . .

SANTA FE—State police and Game and Fish Department personnel have been told to begin enforcement of New Mexico's litterbug law. The amended 1957 law provides that written protest by a citizen can set in motion the enforcement procedure. Violation is a misdemeanor punishable by \$10 to \$100 fines and up to 30 days in jail. The state estimates that \$150,000 is spent each year to clean up after the litterbugs.—*New Mexican*

• • • UTAH

State Park Development . . .

SALT LAKE CITY—Initial step toward development of state parks—with particular emphasis on the Great Salt Lake, the "This Is the Place"

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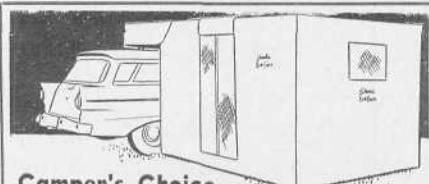
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Monument and mountain areas flanking Utah's metropolitan area was approved by the State Park and Recreation Commission. The Commission voted to enlist the help of all Utah's county commissioners in designating places which may serve as state parks. The county officials were asked to include areas having these four characteristics: (1) natural scenic beauty; (2) educational or scientific value; (3) historical significance; and (4) recreational possibilities.—*Salt Lake Tribune*

Water Needs Cited . . .

SALT LAKE CITY—Reclamation Commissioner W. A. Dexheimer believes America's present water supply must be doubled within the next 18 years. "I think we can single out water as the one physical element which we need more of than any other right now," he said. "I believe there is no better investment the people of the United States can make than that devoted to water conservation and use. It is absolutely essential to our economic growth. In the more arid areas it is essential to survival."—*Salt Lake Tribune*

Utes Cut Delinquency . . .

VERNAL—A Utah State University study has revealed that juvenile delinquency dropped sharply among Ute Indians since the Tribal Council

began an organized community recreation program at Vernal in 1953. The study shows that in 1952 there were 104 cases of delinquency compared to less than 10 last year. The Ute program costs \$6000 per year with one-third of the cost recouped through admissions and other cash receipts. —*Vernal Express*

• • • Flaming Gorge Bid Date Set . . .

VERNAL—The Bureau of Reclamation hopes to issue invitations for bids for construction of Flaming Gorge Dam and power plant in January, 1958. The Bureau warned prospective bidders to visit the dam site now, before mid-winter weather conditions make access to the site difficult. Principal items of work and the approximate quantities include 225,000 cubic yards of excavation for dam and power plant foundations; 925,000 cubic yards of concrete in the dam; 5,000,000 pounds furnishing and handling reinforcement bars; 600,000 barrels furnishing and handling cement; 42,000 tons furnishing and handling pozzuolana; 1,250,000 pounds installing penstocks and outlets; 3,000,000 pounds installing gates, hoists and miscellaneous metal work. The power plant will be constructed for the installation of three 36,000 kilowatt units.—*Vernal Express*

MINES AND MINING

Round Mountain, Nevada . . .

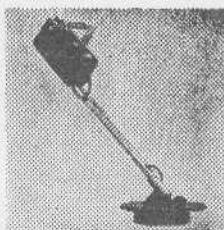
Nevada Porphyry Gold Mines, Inc., has granted a new and amended lease on the Round Mountain mine to Round Mountain Gold Dredging Corporation, controlled by the Fresnillo Company of Mexico. The lease expires on July 15, 1967, but may be extended for an additional 15 years at the option of the lessee. Production at the placer grounds by Fresnillo was begun in 1950, but ceased in the latter part of 1952 for a variety of reasons—principally the realization that the mining methods employed were wrong and that the gold recovery plant needed some changes in its flow sheet. However, a large production of gold bullion — \$477,750 in 1952 alone — was realized by the operation. —*Nevada State Journal*

• • • Gallup, New Mexico . . .

The Department of Interior's realty division disclosed that the Navajo Indian Tribe received over half a million dollars in bonuses from a uranium land lease sale in early September. In all, 375 tracts of land, totaling approximately 54,431 acres in scattered areas of the reservation in McKinley County, New Mexico, were offered for bidding. Bids were received on 218 tracts totaling 34,774.48 acres. Average per-acre bid was \$14.79.—*New Mexican*

• • • Fallon, Nevada . . .

Kaiser Aluminum and Chemical Corporation has closed its fluorspar mill near Fallon, and the facility has been placed on a standby status for an indefinite period. The mill, erected in 1952, produced an acid grade of fluorspar concentrate from ore mined by the company near Gabbs. The mine was closed earlier this year by depletion of deposits at the location, and the mill had been operating on stockpiled ore.—*Fallon Standard*



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Salt Lake City . . .

Financier Floyd B. Odlum, president of Atlas Corporation, announced formation of the largest independent uranium mining company in the United States, with three million tons of reserves in Utah, New Mexico and Wyoming valued at \$100,000,000. Included in the merger are Hidden Splendor Mining Co., with operating headquarters in Salt Lake City; Lisbon Uranium Corporation and Radrock Resources, Inc., both of Salt Lake City; Rio De Oro Uranium Mines, Inc., Albuquerque; and Mountain Mesa Uranium Corporation, Casper, Wyoming. The firm's major ore deposits include 12 ore bodies in the Big Indian District of Utah, three in the Ambrosia Lake area of New Mexico and one in the Gas Hills area of Wyoming. Purpose of the merger, according to Odlum, was to "secure the stability, strength and operating efficiencies that would come with the combination of the many resources of these companies."—*New Mexican*

El Paso, Texas . . .

Over 500 mining engineers, geologists, and executives are expected in El Paso November 7-9 for the annual International Mining Days and New Mexico Mining Association annual meeting. Arizona mining developments will be featured at the first technical session the afternoon of November 7, with Dr. Eldred D. Wilson of the Arizona Bureau of Mines scheduled to present the first paper. Mining activity in New Mexico, particularly in the uranium field, will be stressed during the program on November 8.

Washington, D.C. . . .

Twelve uranium processing mills are in operation in the United States and others have received AEC approval and are under construction. With the exception of the mill at Monticello, Utah, the plants are privately owned. Mills under construction are at Bedrock, Colorado; Mexican Hat, Utah; Ford, Washington; Split Rock, Wyoming; Rifle, Colorado; Maybell, Colorado; Gunnison, Colorado; Fremont County, Wyoming; and three at Grants, New Mexico.—*Grants Beacon*

Moab, Utah . . .

The \$9,000,000 Uranium Reduction Co. Mill was formally dedicated in September before a gathering of over 1000 persons. For uranium millionaire Charles A. Steen, the completion of the plant marked the fulfillment of a long-held dream. About 220 men will be employed at the mill.—*Salt Lake Tribune*

Eureka, Nevada . . .

The famed Uncle Sam Mine in Eureka is being made ready for further production, company officials said. The mine yielded over \$3,000,000 in high grade ore during its heyday, which ended in 1923. The company estimates reserves of \$20,000,000 still to be taken from the workings. High grade ore will be shipped to Salt Lake City for smelting while low grade and mill ore will be milled nearby, and the concentrates shipped to Salt Lake City, officials added.—*Nevada State Journal*

Lucerne Valley, California . . .

Copper ore is being mined at the Snafu Claims on the southwest slope of the Ord Mountains, 18 miles east of Lucerne Valley. Partners Robert Miller of Los Angeles and Robert Clarkson and Fred Holmes of Barstow are mining the ore by open pit and tunnel operation. — *Lucerne Valley Leader*

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Lincoln Mine, Nevada . . .

The 60 residents of Lincoln Mine, a mining camp 45 miles northeast of the atomic firing range in Southern Nevada, have been moved to safer quarters by the Atomic Energy Commission. The AEC said the presence of the people had caused many costly delays in the summer nuclear test series. The Lincoln Mine residents will be maintained in their new quarters until the series is concluded. — *Salt Lake Tribune*

Goldfield, Nevada . . .

Three veteran miners, Tony Notti, Peter Mosher and John Gobbles, report that they have uncovered what looks to be extensive reserves of titanium, calcium and potassium, plus scatterings of other ores, in an area three miles southwest of Goldfield. The miners said they plan to develop the ground by open pit method, stating that there is only relatively shallow overburden to be removed before the ore can be contacted. — *Tonopah Times-Bonanza*

* * *

Salt Lake City . . .

Dr. Franz Pick, publisher of *Pick's World Currency Report*, told delegates of the American Mining Congress that

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the United States could not return to the gold standard now even if it wanted, because total gold stocks of the world are not sufficient to cover its obligations. "The U.S. monetary policy," he said, "has done a perfect job of debasement of the yellow metal . . . Governments do not want to be policed by gold covers on their bank notes. They want freedom of paper money . . ." When the present shrinkage of the dollar's value has run its course, Pick predicted, there will be a recession of unpredictable intensity and the Government will increase the gold price.—*Nevada State Journal*

* * *

Salt Lake City . . .

J. Carlton Ward, Jr., president of Vitro Corporation, declared that power from nuclear reactors now is competitive in cost with that generated by fossil fuels (coal, oil and gas) in some areas of the world, and within a relatively few years will become competitive in some parts of this country. Ward believes atomic power will become competitive in this country first in areas where the cost of fossil fuels is high and lastly in areas where such fuels are plentiful and low in price. However, the acceptance of atomic energy will not destroy the fossil fuel industries. Oil, gas and coal, he asserted, will be used in vastly increasing quantities in the chemical industry, and energy needs also are increasing rapidly.—*Salt Lake Tribune*

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1. The names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Desert Press, Inc., Palm Desert, Calif.

Editor, Randall Henderson, Palm Desert, Calif.
Business manager, Bess Stacy, Palm Desert, Calif.

2. The owner is:
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3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: None.

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5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

RANDALL HENDERSON, Editor

Sworn to and subscribed before me this 13th day of September, 1957.

LOIS E. ROY

(My commission expires May 18, 1958)

AMATEUR GEM CUTTER

By DR. H. C. DAKE, Editor of The Mineralogist

Many gem cutters, both commercial and home, are turning to cerium oxide as a final polishing agent for cabochons. Until recently, tin oxide had long been the favorite in the lapidary industry.

Those who have given cerium oxide a good trial, report that for most materials it will polish faster, gives a very high luster, and is less messy and "muddy" than tin oxide. While cerium oxide costs a little more than tin oxide, the advantage of the time saved is well worth the small difference. After all the cost of polishing powder in the home lapidary shop is only a small item. A pound or two of the cerium oxide will last for months, providing it is not contaminated with grinding grits.

If abrasive grit is carried into the polishing powder container, there is nothing to do but dump the entire lot, and wash out all possible grits that would scratch the gems. Other polishing powders like chromium oxide, and the many alumina polishing powders serve as a very satisfactory substitute for tin oxide. Many supply firms offer special buffing powders under their own labels, which have been tried and tested.

In polishing high grade gems of agate, opal, chrysocolla and similar valuable materials, many gem cutters first use tripoli as a preliminary polishing agent. Then the final high glossy finish is done with cerium oxide or one of the similar polishing powders.

This dual polishing treatment gives a very high glossy finish that lends "depth" to the gem. Obviously two separate buffs should be used in this technique, and care used not to allow tripoli to be carried into the other polishing container.

In polishing large flat or curved surfaces, there may be small pits in the material, and these cavities can easily carry small amounts of grits from the lap wheel or grinding wheel, into the polishing powder. Therefore careful washing is indicated before passing to the final polishing. The hands and fingernails can also be carriers of grits. In many shops the containers carrying the final polishing agents are fitted with covers so they may be securely closed when not in use. If care is used in protecting powder, it will last for an indefinite time, giving good service for months.

Often the inexperienced gem cutter will labor long at the polishing buff and fail to get the proper results. The cause generally can be traced to a number of reasons, notably that the polishing powder is badly contaminated with abrasive grits. These coarse grits cause constant scratching of the surface, making it impossible to get that superb polish admired by all.

Mineralogically speaking, how many collectors are familiar with "desert varnish"?

Familiar to everyone who has visited the Southwest, it is seen as a surface stain or thin crust coating the exposed rocks of the deserts. This stain is either a manganese (pyrolusite, etc.) or iron (hematite, etc.) oxide, or a mixture of both, of a dark brown or black color, and generally with a glistening luster.

Desert varnish coats not only the pebbles and boulders lying loose on the surface but exposed ledges of rock as well. The Black Rock Desert of Humboldt County, Nevada, received its name from the numerous rocks, coated with black "desert varnish" seen on the otherwise clean, dazzling white surface.

* * *

A number of disturbing reports have been received from lapidaries who have allowed the waste silicon carbide grits and other debris from tumbling barrels to flow into the sewer drain, usually in the basement.

This practice, if carried on long, is almost sure to plug the sewer drain. The high specific gravity silicon carbide grits are likely to settle down at an elbow or low place in the sewer drain, where they will eventually pack down hard, almost solid. This is likely to call for the services of a plumber, and the aid of a power operated "snake," along with some time, effort and strong language. The tumbling barrel can easily become the plumbers friend.

* * *

An interesting scientific use is being made of zircon, one of the most interesting of all gems. Zircon has a low degree of radioactivity, due to the small amount of contained radiogenic lead. This "abnormal" lead is derived from the spontaneous disintegration of uranium, found in the mother rock, the home of zircon.

By an intricate scientific method, requiring a week or more of laboratory work, the age of the rock in which zircon occurs has been determined with an accuracy of about 90 percent. The granitic rocks in which zircon frequently occurs are usually of great age—in the pre-Cambrian, and are usually regarded as being approximately 600 million years old. The laboratory methods used in assaying the age of zircon give approximately 590 million years as the age of the gem. This would rate zircon as one of the oldest of all gems.

* * *

The beautifully colored varieties of "plume" or "flower" agate, found at the Priddy Ranch locality in central Oregon and elsewhere, represent inclusions of thin films of iron oxide. In most cases these

inclusions are hydrated iron oxides, like goethite. Manganese oxide (usually black or dark brown) may be present in some specimens.

The growths of colored "flowers" are mainly of red, green, yellow and brown, and frequently are grouped in bunches, in a matrix of colorless transparent chalcedony. In the better specimens, the stalks and leaves will be green, with the tops red or yellow, to strongly resemble a plant in full bloom. Flower agate is especially well suited for cabochon cutting. So great has been the demand for this high grade agate their prices are at least four times higher than they were 10 years ago.

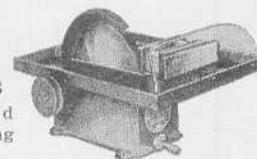
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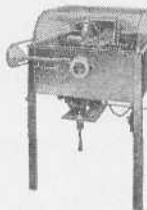
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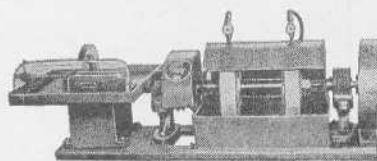
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GEMS AND MINERALS

GEM CLUBS ANNOUNCE NOVEMBER SHOW DATES

These gem and mineral shows are scheduled for November:

November 2-3 — Long Beach, California.

Mineral and Gem Society's annual show at Women's City Club, 1309 E. 3rd St.

November 2-3 — Sacramento, California.

Mineral Society's annual gem and mineral show at Turn Verein Hall, 3349 J. St.

November 8-10—Calexico, California. Imperial Valley Gem and Mineral Society's annual gem and mineral show, De Anza Hotel.

November 8-11—Barstow, California. Second Annual Rockhound Roundup and field trips. Camp at Morton's Minerals and Mining, 11 miles west of Barstow on Highway 66.

November 30-December 1 — Yermo, California. Mojave Desert Gem and Mineral Society's annual Swap Day at Mule Canyon in the Calico Mountains.

GOOD THOMSONITE GEMS INCREASINGLY RARE

Good specimens of thomsonite are becoming increasingly rare because of the closure of most of the best collecting areas in Minnesota. Many fine collecting areas are worked out. Although thomsonite is found elsewhere in the world, the Minnesota stones surpass all others in quality, color and markings.

The mineral is a hydrated sodium, calcium and aluminum silicate with a hardness of 5 and a specific gravity of 2.4. A one inch specimen is considered large, but the larger stones generally are of poorer quality because of weathering. Occasionally a large stone of good quality is found, but chances are it remains in a private collection.

A recommended grinding and polishing procedure is to shape the stone on a 100 or 200 grit wheel. The wheel must be kept very true or the material will break. Then smooth the stone on a 220 grit sanding cloth with a soft back, and polish with tin or cerium oxide on felt or leather.

The pattern and color of thomsonite will change and deepen as it is ground. The most prized stones show green or black "eyes." — Maynard Green in the Austin, Minnesota, Gem and Mineral Society's *Actaches*.

Silica sand has been found to be a good substitute for silicon carbide grains in the preliminary tumbling of Apache tears and smoky topaz. Rather coarse pumice powder will smooth obsidian nodules very nicely after the first grinding with silicon carbide. — El Paso Rockhounds' *The Voice*

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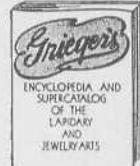
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a composition of small round grains. It is not a mineral. Oolite stones resemble cemented fish eggs in appearance. An interesting oolithic iron oxide ore resembles BB shot. Found principally in central Europe, the ore contains between 50 and 75 percent iron of excellent quality.

While oolites of many kinds have been found, they are not available in sufficient quantities to warrant industrial exploitation.

The name oolite is of Greek origin. The prefix "oo" means a sphere somewhat egg-shaped and especially fish-egg-shaped. Lithos is Greek for stone.—*Pick 'n Shovel*

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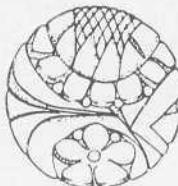
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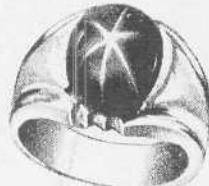
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FOREST SERVICE SWAPS ARMY FOR JADE AREA

The U. S. Forest Service has made a land swap with the Army which will result in the re-opening of a famous California gem stone collecting area.

The Forest Service has secured Jade Beach and surrounding area at the mouth of Prewitt Creek on Highway 1 near the Monterey-San Luis Obispo county line.

Campsites and picnic areas will be developed in the area. Rock hunting, surf fishing, shell fishing, overnight camping and picnicking will be allowed on the land previously closed to public entry by the Army.

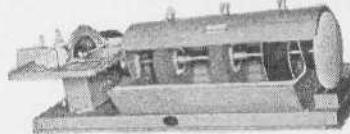
Blasting for jade specimens will not be permitted, the Forest Service said. —Mineralogical Society of Southern California Bulletin

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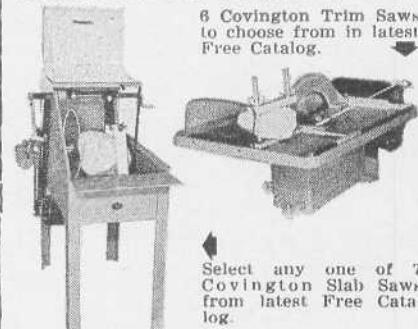
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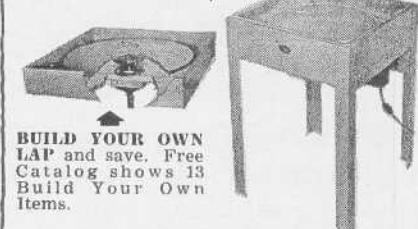
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"QUOTES"

FROM THE GEM AND MINERAL WORLD

"Minds are like parachutes—they function only when open." —Border Braggin'

"The man who fails to reach his goal in life soon acquires the habit of giving advice." — Sacramento, California, Mineral Society's Matrix

"Too many people are like the bottom part of a double boiler—lots of steam and activity, but they don't know what is cooking in the upper part." —Nuts and Nodules

"The man who rolls up his sleeves seldom loses his shirt." —Mojave Desert Gem and Mineral Society's Desert Diggins'

"Success comes in cans—failure in can'ts." — Long Beach, California, Mineral and Gem Society's Mineral News



Alden Clark, president of the San Francisco Gem and Mineral Society, displays the intarsia picture of carved and fitted stone, and the Desert Magazine cover which inspired the work.

TIN OXIDE, ACID, GIVE RHODOCHROSITE POLISH

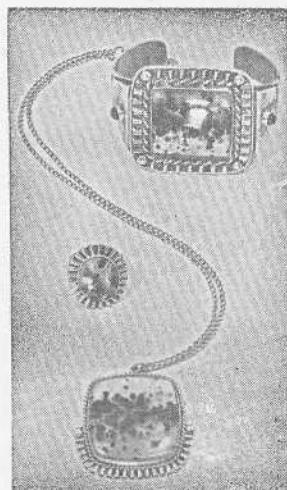
When cutting rhodochrosite it is important that only water be used on the saw. An oil base product will be absorbed and the stone's color deadened.

After the material is ground to form, sand first on 220 grit, wet; then on 400 grit, wet. For best results use worn sanding cloths.

Tin oxide is perhaps the best polishing agent for rhodochrosite. Some lapidaries report good results from tin oxide that has been mixed with a small amount of vinegar and used on a felt wheel.

Another method is to mix two teaspoons of tin oxide and one level teaspoon of oxalic acid in half a pint of water and use on a leather buff. In using this formula, be sure that not more than a third by vol-

ume of acid to tin oxide is used or the stone will be damaged. This polishing formula also works well on marble. — Bob Daniel in the *Georgia Mineral Newsletter*



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San Francisco Club Reviving Intarsia Art

Desert Magazine's December, 1955, cover showing a Navajo mother braiding her child's hair, served as the inspiration for the design of an intarsia picture created by Alden Clark, president of the San Francisco Gem and Mineral Society.

Intarsia, the ancient art of shaping and fitting pieces of stone together to form designs, was all but a dead art when the San Francisco group helped revive it two years ago. Now the society has regular weekly classes in intarsia, as well as other forms of lapidary arts, in the society's new lapidary workshop at 4134 Judah Street.

A step by step exhibit of the intarsia method was one of the features of the society's recently held Gem and Mineral Fair.

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Just Between You and Me

By RANDALL HENDERSON

OSCAR DEMING this month has given *Desert Magazine* readers a brief of the various federal and state laws pertaining to collecting Indian artifacts in the field (Page 17). Oscar believes that the Antiquities Act, passed by Congress in 1906, should be revised to make it more realistic.

For instance, under the law as it stands, you and I are violating the literal terms of the Act when we pick up an Indian arrowhead lying on the floor of a sandy arroyo, where the next storm flood may bury it deep underfoot. And yet, who would pass up such a trophy?

The purpose of the law—and of similar enactments by the various states—is entirely commendable. Its important value is in protecting prehistoric Indian settlements and burial places, in conserving all possible evidence which may be useful to archeologists and anthropologists in reconstructing the story of ancient man.

Nothing on this earth is static. We humans of today are the descendants of an ancestry which dates back millions of years. Our language, our customs, our emotions and our thinking are all the product of man's efforts and the God-given endowment of life and natural law back through the ages as our ancestors made their slow ascent up the ladder of evolution. The more we know about the history and pre-history of our predecessors, the better will be our understanding of the role of human beings on this earth today.

And so it is important that those seekers after Truth—the scientists—have access to all the data that can be made available to them—including the artifacts of the ancients who occupied this continent before the white men came.

We Americans are trophy hunters—most of us, at least. It is not easy for those who would collect artifacts as a hobby to make the distinction between proper collecting and improper collecting. Certainly the desert hiker who picks up the random arrowhead is not retarding the progress of science. On the other hand the collector who discovers and excavates an ancient Indian burial site merely for the trophies it might yield, may be destroying evidence which would be of great value in the research of science. For archeologists are concerned not merely with the physical forms of ancient relics, but also the circumstances of their original deposit in a given location.

I share Oscar Deming's feeling that the Act of 1906 could be made much more realistic. Perhaps the approach would be to require all non-scientific collectors to affiliate with a recognized institution for archeological research—and align themselves with the great quest for Truth, rather than the quest merely for trophies which, while they are a great satisfaction to the collector, may become a burden to the heirs of another generation.

* * *

During the past summer I had the privilege of two delightful camping trips in the canyon country of southern Utah—that land of red sandstone buttes and cliffs and juniper forests.

There one may camp and explore for days without making contact with another human being other than the companions of the trip.

In this magnificent wilderness, far away from the clatter and confusion of dense population centers, one feels a deep sense of humility. In this setting, many of the things that men and nations quibble and fight over seem very petty indeed. Man, with all his miracles of science and organization, has never been able to approach the fine harmony of color and form and association which are commonplace in Nature's world.

There are beauty and strength and peace in Utah's desert landscape. I once suggested on this page that this would be a perfect setting for the headquarters of the United Nations organization. Perhaps from closer association with such an environment the men and women who have assumed the leadership in world affairs could gain a broader conception of their responsibilities, and envision the wide horizon of mutual interest which lies above and beyond mere personal and national self-interest.

* * *

The headlines these days are not reassuring: An Arkansas governor calls out the militia to defy the Constitution of the United States, and one of the largest labor unions in the nation elects a known racketeer as its president. One wonders if integrity in high places is a vanishing virtue.

But perhaps we should not be too much perturbed over such events. Marshal South once wrote:

"It is a good thing that the Great Spirit in His infinite wisdom sees fit once in a while to drastically upset the order of things. Else there would be no development of mind or soul or initiative. Just a ghastly lock-step—everything growing more crystallized and patterned until the whole universe mumified. After all, it is disaster and upheaval that are the stuff from which real progress is built."

* * *

One of my neighbors is Nina Paul Shumway who has spent most of her life on the desert. I think Nina has encompassed both the charm and the promise of life on the desert in this verse titled *I Am the Spirit of the Desert*:

*Come with friendliness and I will give you Friendship.
Come with faith and I will give you Courage.
Commune with my spirit and you will find Peace.
Search my solitudes and you will find Truth.
Come with compassion and you will find Understanding.
Come with love and I will pour out my Beauty.*

BOOKS of the SOUTHWEST

MOUNTAIN MAN WHO BECAME A CHIEFTAIN

Utah newspaperwoman Olive Burt is well known for her contributions to young people's literature (*Brigham Young, Jedediah Smith, John Charles Fremont and Ouray the Arrow*). Her most recent book, *Jim Beckwourth, Crow Chief*, is a story readers of all ages will find interesting for Beckwourth was truly a fascinating character who made his way from one adventure to another in the West as it changed from an Indians' happy hunting ground to white man's domain during his lifetime.

Headstrong and proud, Beckwourth was the son of a white father and Negro mother. Discontent with the role he was expected to play in the northern Mississippi frontier country, he early became a Mountain Man. A fellow trapper, as a practical joke, told the friendly Crows that Jim was one of them, stolen as a child by the Cheyennes and later raised by whites. The Crows were impressed for Jim was a powerful man with a reputation for bravery and daring. They kidnapped him and, in time, he became their war chief.

With the Indians, the young mulatto found the admiration, prestige, power and approval that had never completely been his in the company of whites. The author, although perhaps overly sympathetic with the main character, has given us a highly entertaining story set in an era of unparalleled adventure.

Published by Julian Messner, New York; bibliography and index; 192 pages; \$2.95.

PARKS NEED YOUR HELP AND UNDERSTANDING

Far more than a guide book, *Exploring our National Parks and Monuments* crystallizes and gives voice to the arguments of conservation in its never ending battle to preserve a portion of this

nation as it was before the white man came.

The author, Devereux Butcher, is editor of *National Parks Magazine*. He makes it clear that it is not his intention in this book to popularize the already over-crowded parks. Rather, he seeks to explain their mission and therefore gain public sentiment and support for the struggle against the frequent precedent-setting "raids" on the parks by commercial interests.

Butcher answers the questions those interested in visiting these areas are likely to ask: how to reach the parks and monuments, accommodations, tours, nature trails, outstanding attractions, flora and fauna, etc. First published in 1947, the current or fifth edition has been brought up to date regarding these details.

Accompanying the text are 280 half-tone illustrations and 16 pages of color photos. With Butcher, protection of the parks is a crusade and he spares no effort in words or pictures to describe their primeval beauty. To lose sight of the wilderness' true worth,

especially in this day of increasing urbanization, would be a tragedy beyond description the author feels—and one has merely to thumb through the book and look at the pictures of mountains, forests and canyons to agree with him.

Published by Houghton Mifflin Company, Boston, illustrated; index and reading list; 288 pages; \$3.45 paper, \$5 cloth cover.

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*Based on September sales by Desert Magazine Bookshop

FOR THOSE WHO READ . . .

Following is a selected list of current books of the desert
HISTORY • LEGEND • BIOGRAPHY
 These we recommend for your Christmas giving—

H6 GOLD, GUNS AND GHOST TOWNS, W. A. Chalfant. Combines *Outposts of Civilization* and *Tales of the Pioneers* in attractive 7x10 edition. "All the rough and ready, gold-crazy exuberance of the old West is captured in these stories. The days when men, good and bad, were motivated only by the lust for nuggets and gold dust have been sympathetically yet humorously chronicled." \$3.50

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